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Creation Stories:
Myths about the Origins of Money[1]

Christine Desan

Revised Draft, July 30, 2013

A myth about the origins of money has long organized modern approaches to the medium. According to that creation story, money is the natural product of human exchange. It can be analogized to a commodity like silver that comes to hand out of the decentralized activity of trading or a convention like language that arises out of a consensus about the value of an item. But if we consider clues about money's origins and extrapolate from its continuing practice, another story comes into focus. It suggests that money is a constitutional project, a mode of governance for a material world. Money is a means of mobilizing resources across a collective, one created when people advance in-kind value to a stakeholder in return for a unit that represents that advance. The process both entails material value – the advance to the stakeholder is real – and converts it into a form that everyone else recognizes – the advance holds independent value because it offers a countable measure that can be transferred to make final payments. Money creation tied to a fiscal backbone can be expanded in response to the demand for cash: that practice accords both with modern economic theory and the English medieval history that furnishes the setting here. In contrast to the dominating myths about money, the "stakeholder" creation story explains how each of money's functions is institutionalized and how that activity shapes "the market" that is made by money.

Money has long starred in accounts of modernity and the way it arrived. Many of those accounts converge to a surprising extent. The reigning sources in history, law, and economics, written by those on the left and the right, by social theorists and neoclassical modelers, establish a basic narrative, a wide-ranging convention about money and the market it lubricates. According to one of its greatest philosophers, Georg Simmel, money expresses in its complete neutrality "the economic relations between objects . . . in abstract quantitative terms, without itself entering into those relations." Karl Marx could have deployed the same formulation to capture the way money as a commodity, in fact the "universal equivalent" of all commodities, represents *as* commodities all objects in

[1] This draft is the opening chapter of a longer history about the transformation in England from a monetary system based on commodity money to one based on bank-issued money. See Christine Desan, *Making Money: Coin, Bank Currency, and the Coming of Capitalism* (Oxford: Oxford University Press, 2014).

exchange, veiling the social relations that inhere in their production. Remarkably, the orthodoxy of modern macroeconomics echoes the philosopher and the arch-critic of capitalism. "[A]lmost all economists agree," according to one standard textbook, that "the money supply affects nominal variables – variables measured in terms of money – but not real variables" in the long run. The "classical dichotomy" divides the world into real and monetary spheres; money is a signifier, a numeraire, an emphatically empty register of value.[2]

History, however, unsettles the modern imagination about money. According to its practice, money is not a neutral instrument, one that expresses "the economic relations between objects . . . in abstract quantitative terms, without itself entering into those relations." To the contrary, money is a method of representing and moving resources within a collective, one that fixes or entails material value by identifying a marker with an obligation that individuals owe the group and can exchange among themselves. The outcome is familiar. Entailing value creates a unit that can measure other resources, pay off debts finally, and transfer value immediately. But that outcome is product of a process overlooked or, rather, ellipsed by the modern consensus. When they take the steps that make money, communities intervene intimately into "the economic relations between objects" and the people who hold them. That process lasts as long as money does; it includes the legal dynamics, the conceptual categories, the practical imperatives, the compliance and contestation that create the medium. In short, money makes the market and fully enters into it.

The case for a new approach to money and the market begins with an assessment of the conventions we now take to define that partnership. "Money" and "market," formal and real, play familiar and remarkably constant roles in the dominant narrative about how market-based modernity arrived. According to that story, money arises immediately out of bipolar exchange; individuals converge upon that means to express the material value of objects. The polarity of form and substance that is produced shapes both our history and the current realities we see. That agreement is blunt and it falls apart

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[2] See Georg Simmel, *The Philosophy of Money*, 3rd enl. ed. (London: Routledge, 2004). 125, 33; Karl Marx, *Capital: a Critique of Political Economy*, Pelican Marx Library (Harmondsworth, UK: Penguin Books, 1976). 162; N. Gregory Mankiw, *Macroeconomics*, 4th ed. (New York: Worth Publishers, 2000). 238.

immediately beyond the basic outline – but it is all the more powerful for the points of consensus that it appears to isolate.

Against that consensus, an alternative creation story follows. It draws on the history of money as it appeared in early England and as it unfolds in the book. That history suggests that money is a constitutional (small "c") project, a project just as rich and varied as other modes of governance. Lke other modes of governance, money serves both public and private purposes. It can be designed in ways that are democratic or dictatorial, stable or fagile. It selects for certain exchange, sometimes sorting harshly by size and other times by parties or place. It pervasively picks out certain objects as commodities and disallows that identity to others.

"Money" is invented when a community, acting through a stakeholder, denominates in a homogeneous way the disparate contributions received from members, and recognizes them as a medium and mode of payment. The group may be a state, but can also be a coalition much less grand, including a small polity, religious organization, or other union. To produce money's basic structure, participants advance the time value of resources owed to the center in return for that actor's singular ability to represent those resources in units that are countable and transferable. The units entail the material value of the taxed resources, as it is enhanced by the cash quality they gain as countable, transferable markers. Both the fiscal value and cash premium of money are "real" values, not neutral properties. Making money is therefore a material project: it proceeds by intervening into the way people relate to resources and it distributes profits and costs as it does. On the basis of money's fiscal infrastructure and in response to people's demand for cash services, societies can expand their money supplies beyond those made for public uses; they can sell money to individuals or license others to sell money to them.

The practices that make money – the interventions that create a standard unit from disparate resources, that enforce it as a mode of payment, and that support it as it travels -- construct exchange in that medium. "The market" is thus integrally connected to "money." Recognizing that money and market take shape together reveals as well the drama that occurs as they change.

A. The Conventional Creation Story

The standard narrative paints the coming of capitalism as a process, often long and gradual, that effectively merges with economic modernization. A stain or a tide depending on whether the writer begrudges or approves it, capitalism begins with private property and priced exchange; it arrives when those practices penetrate territory that was formerly outside of "the market."

The basic story articulated by Adam Smith, or attributed to him in some version, springs to mind. It centers on individuals inherently oriented towards truck and barter and the choices they make to improve their circumstances. Those agents are liberated to specialize their labor when society recognizes rights of ownership in work and its results. Then, people can produce for exchange, procure through exchange, and generate increasing profits through exchange. The market -- in Smith's day, a physical place relatively free from the cloying restrictions of a mercantilist state -- becomes the paradigmatic promise of unfettered interaction in a liberal nation.[3]

Profoundly critical of that emancipatory story, Marx cast capitalism as its desperate alterity. It was located in the immiseration of working man and the estrangement of his labor in its objectified product, in a process emptied of all gratification but the end result, and in the alienation of man and nature. Private property here drove apart man from the creations of his hand and separated workers from owners. Priced exchange operated as the technology that obscured the relations of power that underlay the production of commodities. But tying himself expressly to the classical political economists he savaged, Marx too crafted a narrative that wrote capitalism as a gathering force, or perhaps fate, that was cannibalizing social relations written on other logics.[4]

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[3] See Adam Smith, *The Essential Adam Smith* (Oxford: Oxford University Press, 1986). 109-21, 67-90; Emma Rothschild, *Economic Sentiments: Adam Smith, Condorcet, and the Enlightenment* (Cambridge, MA: Harvard University Press, 2001); Discussion with author, Sept. 22, 2008, Cambridge, MA. For versions of the Smithian story, see, e.g., R. A. Radford, "The Economic Organisation of a P.O.W. Camp," *Economica* 12, no. 48 (1945); Douglass Cecil North, *Structure and Change in Economic History*, 1st ed. (New York: Norton, 1981).

[4] Karl Marx, *Economic and Philosophic Manuscripts of 1844* (New York: International Publishers, 1964); Marx, *Capital*.

Between and around these poles, accounts scatter in a hundred directions. Across that profusion, however, several tropes emerge. Early markets are read as bounded areas, fenced off both in ritual and in physical space. Merchants operate as outsiders. They represent a commercial logic at odds with the social bonds that tie communities together. But market actors and practice do not erode customary norms because they contribute only one element to the rich compound of human relation.[5]

That changes over time. Economic production increases where growing populations create regimes of private ownership and move away from subsistence towards more extensive trade. Cities replace smaller, more traditional communities. Between and within them, monetized exchange increasingly crowds out the reciprocal relations anchored in custom. Networks of credit thicken until they extend beyond the merchant circles that generated them.[6]

At a certain point, markets overflow their bounds, they diffuse and penetrate everyday life, they move to the center. As some scholars see it, expanding markets

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[5] For examples of historical and sociological approaches, see Jean-Christophe Agnew, *Worlds Apart: The Market and the Theater in Anglo-American Thought, 1550-1750* (Cambridge: Cambridge University Press, 1986). 1-56; Arjun Appadurai, *The Social Life of Tthings: Commodities in Cultural Perspective* (Cambridge: Cambridge University Press, 1986). [Intro]; Fernand Braudel, *Afterthoughts on Material Civilization and Capitalism*, Johns Hopkins symposia in comparative history (Baltimore: Johns Hopkins University Press, 1979); Joyce Oldham Appleby, "Locke, Liberalism and the Natural Law of Money," *Past and Present* no. 71 (1976): 44; Joan Comaroff and John L. Comaroff, "Millenial Capitalism: First Thoughts on a Second Coming," *Public Culture* 12, no. 20 (2000). For a review of the classic approach to medieval towns as economic spaces, see Gerald E. Frug, *City Making: Building Communities without Building Walls* (Princeton, NJ: Princeton University Press, 1999). 26-36. For representations from economics, see Joseph M. Ostroy and Ross M. Starr, "Money and the Decentralization of Exchange," *Econometrica* 42, no. 6 (1974).

[6] See, e.g., Agnew, *Worlds Apart*: 52-56; Comaroff and Comaroff, "Millenial Capitalism," 331-34; Joyce Oldham Appleby, *Economic thought and ideology in seventeenth-century England* (Los Angeles: Figueroa Press, 2004). 23-24; James A. Henretta, *The Origins of American Capitalism: Collected Essays* (Boston: Northeastern University Press, 1991). []. For reviews of the conventional approach to credit, see James Steven Rogers, *The Early History of the Law of Bills and Notes: A Study of the Origins of Anglo-American Commercial Law*, Cambridge Studies in English Legal History Index (Cambridge: Cambridge University Press, 1995). 1-4, and to modern banking, see Angela Redish, "Anchors Aweigh: The Transition from Commodity Money to Fiat Money in Western Economies," *The Canadian Journal of Economics / Revue canadienne d'Economique* 26, no. 4 (1993): 781-85.

uproot the early modern English. They are overwhelmed, unmoored, culturally upended in a world that allows the "fraternization of impossibilities" and an indiscriminate mix of men and commodities.[7] In the view of other scholars, the triumph of market organization frees the population from oppression, the conformist pressures that brake progress, and material want. Participants are rational actors who finally secure protection again expropriation and busily begin building banks, trading securities, and making capital markets.[8]

In either case, economic exchange appears to have an almost uniform character and, indeed, authors find developments in similar measure across the Atlantic. They cast the American eighteenth century as the story of men and women entering "the market," assuming new roles as entrepreneurs, leaving independent farms for waged labor, and increasingly costing out the value of time in loans and leisure. For some the process is natural, for others tragic, for still others celebratory.[9] Whether sadly or triumphantly, individuals enter the modern age, intimately but now impersonally tied to one another as producers, consumers, debtors, creditors, wage earners, and employers.

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[7] The quote is from Marx, *Economic and Philosophic Manuscripts of 1844*: 169. See, e.g., Karl Polanyi, *The Great Transformation: The Political and Economic Origins of our Time*, 2nd ed. (Boston, MA: Beacon Press, 2001); Agnew, *Worlds Apart*: 54/passim, chap 1; Keith Hart, "On Commoditization," in Esther N. Goody, *From Craft to Industry: The Ethnography of Proto-industrial Cloth Production* (Cambridge: Cambridge University Press, 1982). 38-49; Appleby, "Locke, Liberalism," 44; Deborah M. Valenze, *The Social Life of Money in the English Past* (Cambridge, UK: Cambridge University Press, 2006)[]; Craig Muldrew, "Interpreting the Market: The Ethics of Credit and Community Relations in Early Modern England," *Social History* 18, no. 2 (1993).

[8] See, e.g., Douglass C. North and Barry R. Weingast, "Constitutions and Commitment: The Evolution of Institutions Governing Public Choice in Seventeenth-Century England," *The Journal of Economic History* XLIX, no. 4 (1989); Larry Neal, *The Rise of Financial Capitalism: International Capital Markets in the Age of Reason*, Studies in Monetary and Financial History (Cambridge, UK: Cambridge University Press, 1990); Niall Ferguson, *The Cash Nexus: Money and Power in the Modern World, 1700-2000* (New York: Basic Books, 2001).

[9] See, respectively, Winifred Barr Rothenberg, *From Market-Places to a Market Economy: The Transformation of Rural Massachusetts, 1750-1850* (Chicago: University of Chicago Press, 1992); Henretta, *Origins of American Capitalism*; Allan Kulikoff, *The Agrarian Origins of American Capitalism* (Charlottesville: University Press of Virginia, 1992); Michael Merrill, "The Anticapitalist Origins of the United States," *Fernand Braudel Review* 13(1990); Gordon S. Wood, *The Radicalism of the American Revolution*, 1st Vintage Books ed. (New York: Vintage Books, 1993).

The conventional story of economic modernization assigns money an essential role: it is the instrumentality of the market. Contemporary economists emphasize that money provides the liquidity that allows individuals to move beyond barter. Money irrigates exchange by providing a fungible medium, one that obviates the need, if exchange is to occur, for a "double coincidence" of wants – the fortuity that people have commodities that they are willing to exchange at a time, quantity, and value that both agree on. Further, a common currency allows goods to be valued over time relative to other goods, establishing prices that convey information about relative worth to buyers and sellers. Finally, money acts as a store of value, an asset that carries purchasing power in liquid form.[10] It is, in fact, the evident functionality of money that renders it so dangerous, according to more critical observers. For them, the ascendance of money effected categorical change because money in its very operation allowed everything to be measured, quantified, and understood as an object for exchange. That representation veiled the reality instantiated in every commodity, its foundation in the contingent and increasingly coercive social relations defined by the mode of production. [11]

Whether they consider it a blessing or a curse, commentators agree that money flows from custom or convention. Many narratives stage its start in the wild simplicity of an early world. In that conjured space, exchange was a murky broth of barter. People

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[10] James Tobin, "Money," ed. Steven N. Durlauf and Lawrence E. Blume, 2d ed., *The New Palgrave Dictionary of Economics* (2008). 3-5; Ross Levine, "Financial Development and Economic Growth: Views and Agenda," *Journal of Economic Literature* 35, no. 2 (1997): 690-703.

[11] For Marx, money thus obscures the social relations that all products of man's labor entail in their very creation. Deceptively coded into exchange value, labor itself can come to appear an object for sale. The relations of coercion, deprivation, and privatization that undergird it disappear into its commodification. Labor, a generative force that exceeds the cost of its replenishment, is set against the objective appearance of other values; commodification both submerges and captures its creative capacity. Marx, *Capital*. For the rich analyses of money's instrumentalizing aspects by scholars in sociology, history, and literary studies, see, e.g., Keith Hart, "On Commoditization," 1982, and the review by Valenze, Valenze, *Social Life of Money*: 23-25. For the focus in sociology, see Viviana A. Rotman Zelizer, *The social meaning of money* (Princeton: Princeton University Press, 1997). 10-12; Geoffrey Ingham, "On the Underdevelopment of the 'Sociology of Money'," *Acta Sociologica* 41, no. 1 (1998). In cognate fields, see Michel Callon, ed. *The Laws of the Markets*, Sociological review monograph (Oxford, UK: Blackwell Publishers/The Sociological Review, 1998); Marc Shell, *The economy of literature* (Baltimore: Johns Hopkins University Press, 1978).

traded all sorts of objects among themselves — grain, gold, cows and hides, promises, services, fish, and salt. In the fluid mix of exchange, they found silver and gold especially easy to give and take. Metal gradually rose like fat to the surface, becoming a favored medium and marker of value as it passed endlessly from hand to hand. People cut silver and gold into pieces to make the process easier and more regular; disks of the commodity became coin. Its brokers were buyers and sellers converging upon pieces of precious metal to mediate each transaction and, ultimately, to create prices in a common medium.

Content changes and the government assists as society becomes more complicated or bankers become more powerful -- but the medium has a constancy across all those details that is firmly rooted in the primal spring of exchange. As Marx wrote, the "commodity form" into which the value of any other commodity can be translated may be made of any object. Gold prevailed simply because, after serving as an equivalent for other commodities in isolated exchanges, "[g]radually it began to serve as universal equivalent in narrower or wider fields." It became the money form only after it "had won a monopoly of this position in the expression of value for the world of commodities."[12]

Writing only a few years later, Carl Menger agreed on this, if nothing else. An author of the marginalist revolution that came to revitalize classical approaches to economics, Menger understood money as the product of custom: "As economizing individuals in social situations became increasingly aware of their economic interest, they everywhere attained the simple knowledge that surrendering less saleable commodities for others of greater salability brings them substantially closer to the attainment of their specific economic purposes." Continually trading less liquid for more liquid commodities that they would be able to use more easily to buy what they needed, individuals eventually create a medium of exchange: "No one invented it," concludes Menger, "money is a natural product of human economy."[13]

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[12] Marx, *Capital*: 163. As Marx put it more generally, "The specific kind of commodity with whose natural form the equivalent form is socially interwoven now becomes the money commodity, or serves as money." Ibid., 162.

[13] Carl Menger, *Principles of Economics*, trans. James Dingwall and Berthold Frank Hoselitz, The Institute for Humane Studies Series in Economic Theory (New York: New York University Press, 1981). 263. An ocean away, in politics as well as society, another

More recent writers reiterate the hypothesis. Some do so with great sophistication, exploring the conditions under which we might find Mengerian convergence without centralized intervention.[14] Many assert the phenomenon much more simply. One account of a World War II prisoner-of-war camp has become iconic. It offers a microcosm of the market or, as the author put it, a case study of a "brand new society" where observers can witness the "growth of economic institutions and customs." And there, in the example of "an actual economy" clean of complexity, individuals naturally converged upon cigarettes – a random commodity that just happened to be commonly available -- as a medium of exchange. The basic instrumentality of money occurred, that is, out of the decentralized activity of bargaining agents, without politics or collective orchestration.[15]

From its origin as an object chosen spontaneously by people making deals, money matures predictably, along with the market it supports. Contemporary economics textbooks carry the bluntest version of the story. They pick up where Marx and Menger left us, with people passing around the gold as a common denominator in exchange. After a while, the government "gets involved" to save people the costs, not to mention

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nineteenth historian produced a typical formulation of the phenomenon. "Currency," he explained, "denotes whatever has been adopted, as a medium of exchange, by general consent and practice." Joseph B. Felt, *An Historical Account of Massachusetts Currency Microform* (1839). 10. For classical liberal versions of the story, see David Hume, *Of Money*. 35-36; John Locke, "Further Considerations Concerning Raising the Value of Money," in *John Locke: Locke on Money* (Oxford: Clarendon press, 1696), 410, 23. Some accounts acknowledge this history to be extrapolated as a matter of logic, not fact. See, e.g. Paul Samuelson and William D. Nordhaus, *Economics*, 9th ed. (New York: McGraw-Hill, 1973). 274-76; Kevin Dowd, "The Invisible Hand the the Evolution of the Monetary System," ed. John Smithin, *What Is Money?* (London: Routledge, 2000). .

[14] See, e.g., Robert A. Jones, "The Origin and Development of Media of Exchange," *The Journal of Political Economy* 84, no. 4 (1976) (reviewing literature and modeling phenomenon).

[15] Radford, "P.O.W. Camp," 160. The Radford article has become a chestnut of introductory texts in macroeconomics, money, and finance. See, e.g., Mankiw, *Macroeconomics*: 157; Frederic S. Mishkin, *The economics of money, banking, and financial markets*, 9th ed., The Addison-Wesley Series in economics (Boston: Addison-Wesley, 2010). 55 n.1; Dowd, "The Invisible Hand the the Evolution of the Monetary System," 143; Tobin, "Money," 2; see also Donald W. Katzner, "Unity of Subject Matter in the Teaching of Intermediate Microeconomic Theory," *The Journal of Economic Education* 22, no. 2 (1991) (advocating use of the article in teaching basic economics).

the headache, of measuring gold out, testing it, and trading it. Coins of a standardized amount and fineness of metal enter circulation as units of account. [16]

"Commodity money" – paradigmatically, money made from silver or gold – holds a preeminent place in the teleology of money. If, in fact, individuals naturally converged upon a precious metal as the commodity equivalent of value and if the government steps in simply to facilitate their choice, then coin made of metal does indeed offer the prototype of money produced out of the autonomous acts of individuals, money can be analogized to bullion, and the government plays a distinctly inconsequential role. In their most notable discussions of money, Hume and Ricardo equated it directly with silver and gold.[17] And in both popular and academic writing today, authors assume that the "Gold Standard" refers to a time when "gold" circulated outright as money, providing an anchor that stabilized the market.[18] Each formulation evokes money as a representative of value that is real, independent of politics, private, and impervious to tinkering.

Macroeconomists make that identity explicit, modeling an "ideal commodity money" to exemplify the way a medium should work. As they articulate it, an "ideal commodity money" creates a medium with stable value by tying prices for commodities in coin to prices for commodities in metal. Linking the stock of coin to the supply of a metal prevents the quantity of money from fluctuating independently of the market for that metal. The technique should stop the price hikes that would occur if a sovereign anxious to spend more simply issued twice as many coins with half the amount of metal in each. His ploy would obviously only work until people figured it out and started charging twice as much in the new coins. But in the meantime, the ruler would make off

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[16] Mankiw, *Macroeconomics*: 158; see similarly Mishkin, *Economics of Money*: 57-59.
[17] David Ricardo, "On Foreign Trade," *The Works and Correspondence of David Ricardo* I, no. Chapter 7 (1817 [2005)) (last accessed Dec. 21, 2012); David Hume, "Of the Balance of Trade," Political Discourses, 1752.
[18] See, e.g., Richard Lipsey, *An Introduction to Positive Economics* (Weidenfeld and Nicolson, 1975). 683-702; Tobin, "Money," 3. While Bordo later qualifies the image by noting the importance of fiduciary money, he explains the gold standard by equating it with circulating gold commodity money. Michael D. Bordo, *The Gold Standard and Related Regimes: Collected Essays*, Studies in Macroeconomic History (Cambridge, UK: Cambridge University Press, 1999). 2-4.

with an undeserved advantage and the arbitrary change in prices would disrupt the market.[19]

According to this view, a government can create an ideal commodity money system by identifying the metal content of each coin (for example, ounces of silver/penny), and converting metal to coin at the demand of users. Coin is easier to use than raw metal, so people will often prefer to take it, selling their goods at a lower price in coined metal than they would demand in silver bullion. Users will choose to have coin rather than silver whenever the value of coin exceeds the value of the silver in the coin – in other words, whenever prices in coin stay below the level they would be if stated in amounts of metal, given the amount of metal per coin. When those prices are equal, the holder of coin can buy goods either at the "world price" of goods in silver (oz silver/gd), or at the price of goods in coin (oz silver/gd // oz silver/penny), which would come to the same thing.[20]

The "commodity money" system projected by the model creates a device that will equilibrate the amount of coin in circulation. People will mint or melt coin depending on how much they value money's services compared to the other things they might do with the metal that is in it, including paying or charging for other commodities. When prices in coin rise above the level at which prices in coin and in metal are equal (i.e., the value of coin falls), users would rather have the silver in the coin, which they can use to buy more goods or for other purposes. Coin will be melted for its silver content. As coin leaves circulation, prices in coin will fall until coin and silver have the same relative

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[19] See, e.g., Redish, "Anchors Away," 785 & n.13. If, for some reason, the sovereign wanted to have less coin, he could of course double the amount of metal content in each unit and prices would drop. The effect would be the same as when stressed soldiers smoked their cigarette money and so took it out of circulation.

[20] "An ideal commodity money system is designed to equate the price level to a relative price of metal for consumption goods, and by making stocks of coins endogenous, to prevent effects on the price level coming from exogenous fluctuations in the quantities of coins." Thomas J. Sargent and Francois R. Velde, *The Big Problem of Small Change*, The Princeton Economic History of the Western World Indexes (Princeton, NJ: Princeton University Press, 2002). 11; see also ibid., 22. ("An ideal commodity money makes the price level proportional to [oz silver/gd – the world price in silver], where the factor of proportionality is… the number of coins of [a certain type] per ounce of silver."); see also Angela Redish, *Bimetallism: An Economic and Historical Analysis*, Studies in Macroeconomic History Index (Cambridge, UK: Cambridge University Press, 2000). 3.

value. Conversely, when prices in coin are below the point equal to the value-by-weight of coin, the value of coin will be higher than the metal it contains. People will go to the mint to get coin. That will raise the amount of coin in circulation, in turn raising prices in coin until they reach the point at which the value of coin equals the value-by-weight of coin (in other words, the value of the metal in the coin). Individuals, considering their advantage in matters of exchange, melt or mint in response. They thus tie the total quantity of money and prices to the independent and shared supply of metal.[21]

The ideal commodity money model produced by modern macroeconomic theory is, itself, a kind of genesis story. Its dynamism turns on individuals who can pay for goods in either silver or coin, and choose by comparing the world price of goods in silver to prices in coin. Coin is effectively identified with the commodity; it is distinctive as money only insofar as it imports convenience, measuring and regularizing the commodity. Value is determined by the exchange of real goods, traded according to the natural forces of supply and demand. The decentralized and rational actions of participants produce an equilibrium – including a stock of money -- that is ultimately good for everyone. There is no call for politics, as individuals need never collide with a concerted public. Government is a freely available coordinating device, a technical service that costlessly provides the platform for individuated action. The system is self-calibrating, as opposed to centrally defined.

It would be hard to imagine a more inanimate instrumentality than money, as captured by the ideal commodity model. The sheer automaticity of the system, its depersonalized and depersonalizing effects, evokes a barebones agreement from Marx and others. In Simmel's words, it was the "uncompromising objectivity" of money that allowed it, at once solvent and dangerous, "technically perfect," to render everything calculable. Money was "colourless," a matter "free from any quality and exclusively determined by quantity."[22]

If commodity money is the fulcrum of the system, it nonetheless begs revision. Money made of precious metals is heavy and hard to transport. "Imagine the holes you'd

[21] See, e.g., Sargent and Velde, *Big Problem of Small Change*: 9-12.
[22] Simmel, *The Philosophy of Money*: 127, 281, 367, 441, 44.

wear in your pockets if you had to buy things only with coins!" notes one account.[23] According to the prevailing common sense, banks start issuing paper notes that are claims to gold in reserve. Their practice follows from long mercantile tradition of private credit. The government, again a secondary agent, eventually steps in to support a central bank as lender as last resort. As long as people believe that the notes will be converted on demand, they are "just as valuable as the gold itself."[24] The gold reserve is eventually abandoned as unnecessary because "[a]s long as everyone continues to accept the paper bills in exchange, they will have value and serve as money."[25]

As our representative textbook concludes, "Thus the system of commodity money evolves into a system of fiat money." As the author enjoins people to notice, in the end, "the use of money in exchange is largely a social convention." Everyone values fiat money "just because they expect everyone else to value it."[26] To some observers, that quality makes money deeply problematic. After all, insofar as money depends simply on "confidence," money seems "one of the supreme fictions," an illusion. The money machine produces paper and fantasy; value is plotted on an axis that runs from "trust" to counterfeiting, and it is not clear that there is much difference between the two except the likelihood that someone will be able to pass on a bill in time to get substance for it.[27] Just as when it was made of gold, money remains an opaque instrument that obscures underlying allocations of power, now in a modern dress of paper.

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[23] Mishkin, *Economics of Money*: 57.

[24] Mankiw, *Macroeconomics*: 158. On banks, see, e.g., Rondo Cameron, "England, 1750-1844," in *Banking in the Early Stages of Industrialization*, ed. Rondo Cameron (New York: Oxford University Press, 1967), 1-2, 20-34; Walter Bagehot, *Lombard Street, A Description of the Money Market* (New York: John Wiley and Sons, Inc., 1873, 1999).

[25] Mankiw, *Macroeconomics*: 158; Samuelson and Nordhaus, *Economics*: 274-76. In most accounts, the government imports not only the capacity to lower transaction costs by making coin but also the danger that it will abusively skim off a profit by debasing coin.

[26] Mankiw, *Macroeconomics*: 158.

[27] Patrick Brantlinger, *Fictions of State: Culture and Credit in Britain, 1694-1994* (Ithaca: Cornell University Press, 1996). 24; see also, e.g., Alain Lipietz, *The Enchanted World: Inflation, Credit and the World Crisis*, trans. Ian Patterson (London: Verso, 1985). 78. For the same view, written as farce, see http://www.theonion.com/articles/us-economy-grinds-to-halt-as-nation-realizes-money,2912/.

The point for us is that whether they applaud or condemn it, people agree on the basic trajectory of money's development. Convention has replaced the commodity content of coin while replicating its opacity. Value is carried so intrinsically as a commodity or so diffusely as a social convention that power structures are either nonexistent (the neoclassical view) or elusive (the critical view). First a commodity and then a convention suffice. As James Tobin put it, "The moneys chosen by societies have varied tremendously over human history. So have their languages. In each case, what is universal and important is that something is chosen, not what is chosen."[28]

The end to the story is expedient, fashioned for a world that has gone off the Gold Standard. Assuming that money is now "fiat," considering it "chosen" as Tobin does, frees academics and policy makers up to address the monetary issues that appear pressing. Those issues have overwhelmingly to do with the controls on the government, supports for banks, monetary shocks, and the relationship between the quantity of money and the real economy. That is true both for Keynesians and for those more classical in persuasion. For some, the main issue of monetary policy is to "make fiat money operate as if it were a commodity money."[29] For others, the money supply is only one determinant in the complex aggregate that comprises prices in the market for goods and services.[30] For still others, money is a policy tool to be deployed to encourage ideal levels of savings and investment.[31] Very few scholars, either from economics or otherwise, return to the question of what money is, how it is produced, and how that might matter.[32]

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[28] Tobin, "Money," 2. Compare Ingham's discussion of Talcott Parsons' approach to money as a language, i.e., another "medium of exchange." Ingham, "Underdevelopment," 5-6.

[29] L. Randall Wray, "Alternative Approaches to Money," *Theoretical Inquiries in Law* 11, no. 1 (2010): 33 (critiquing view). As Alan Greenspan testified to his apparent success shortly before leaving office, those central banks most importantly determining monetary policy had operated "'as if' the nations were on a commodity (gold) money standard." Alan Greenspan, "Monetary Policy Report To Congress," (2005). See, e.g., Lipietz, *The Enchanted World*; Milton Friedman, *The Optimum Quantity of Money: and Other Essays* (Chicago: Aldine Publishing Company, 1969).

[30] Tobin, "Money," .

[31] Charles I. Jones, *Introduction to Economic Growth* (New York: Norton, 1998).

[32] For exceptions, see those working in Neil Wallace's fundamental models of money school, e.g., N. Wallace, "Whither Monetary Economics," *International Economic*

Across its varied retellings, the creation story writes the market into a certain relationship with money. That structure emerges all the more powerfully because it is common to such otherwise disparate accounts. It becomes, in its reiteration, a truism of modern thought. In that status, it evades analysis to a striking extent.

On one hand, the market and money are highly identified with each other. Histories of the market move back and forth between that topic and accounts of money's extension, as if they were proxies for each other, or as if the market were a matter of degree marked by money. Other accounts are more specific. As Karl Polanyi described the epoch of the market economy:

> The transformation implies a change in the motive of action on the part of the members of society: for the motive of subsistence that of gain must be substituted. All transactions are turned into money transactions, and these in turn require that a medium of exchange be introduced into every articulation of industrial life.[33]

On the other hand, the market and money each play a very particular part in the drama they present. Simply put, the market is the end and money is the means; the first is substance, the second is form. Those roles neatly reinforce the larger argument that markets are basically synonymous with modernization. For a great number of scholars, the market is the partner that matters. Here are the "real economy" and "economic fundamentals" that the discipline of economics seeks, the material advance in quality of

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Review (2001); Angela Redish and Warren E. Weber, "A Model of Commodity Money with Minting and Melting," *Federal Reserve Bank of Minneapolis* Research Dept. Staff Report 460(2011). From a very different perspective, see also those developing modern monetary theory. E.g.,Randall Wray, "Modern Money," in *What Is Money?*, ed. John Smithin (New York: Routledge, 2000); L. Randall Wray, *Understanding Modern Money: the Key to Full Employment and Price Stability* (Cheltenham, UK: Edward Elgar, 1998). Other notable contributions include Farley Grubb, "Specie Scarcity and Efficient Barter: The Problem of Maintaining an Outside Money Supply in British Colonial America," in *Re-Theorizing Liquidity* (Cambridge, MA2011); Steve A. Marglin, *Raising Keynes: A 21st Century General Theory* ([2013]); Perry Mehrling, *The New Lombard Street: How the Fed Became the Dealer of Last Resort* (Princeton, N.J.: Princeton University Press, 2011); Morgan Ricks, "Regulating Money Creation After the Crisis," *Harvard Business Law Review* 1(2011); Roy Kreitner, "The Jurisprudence of Global Money," *Theoretical Inquiries in Law* 11(2010); Redish, *Bimetallism*.

[33] Polanyi, *Great Transformation*: 44; see also, e.g., Rondo E. Cameron et al., *Banking in the Early Stages of Industrialization; a Study in Comparative Economic History* (New York: Oxford University Press, 1967). 1.

life that liberalism claims, and the brutal reality of dispossession and exploitation that Marxist and post-colonial studies locate at the base of capitalism. As Schumpeter described the goal of orthodox economics, "Real analysis proceeds from the principle that all the essential phenomena of economic life are capable of being described in terms of good and services, of decisions about them, and of relations between them."[34] Trade in things you can "buy, sell, and drop on your foot" is the productive heart of the economy – and the essential object of its discipline, economics.[35]

That view informs other disciplines at a basic level. Consider the prize-winning appeal of the Gordon Wood's approach to the American Revolution. It was "radical," argues Wood, in its capacity to find "new democratic adhesives in the actual behavior of plain ordinary people – in the everyday desire for the freedom to make money and pursue happiness in the here and now." This tale of uplift makes material striving the generative force of American politics and culture: Wood describes the development as one located in the "commonplace behavior of ordinary people" that made Americans "almost overnight, the most liberal, the most democratic, the most commercially minded, and the most modern people in the world." (Wood adds "capitalistic" in the next paragraph.)[36]

Even the critics of liberalism accept the category. The commodification of work and other areas of social life, the relentless maw of accumulation, the ever-increasing

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[34] Joseph Alois Schumpeter, *History of Economic Analysis* (New York: Oxford University Press, 1994). 277; see also Ingham, "Underdevelopment," 4 (describing the "metatheory" of the real economy to comprise "exchange ratios between commodities in money terms (object-object relations) established as the result of individual acts of utility calculation (individual agent-object relations).")

[35] Mark Blyth, *Great Transformations: Economic Ideas and Institutional Change in the Twentieth Century* (New York: Cambridge University Press, 2002); for comment, see Marglin, *Raising Keynes: A 21st Century General Theory*; Perry Mehrling, "Minsky and Modern Finance: The Case of Long Term Capital Management," *Journal of Portfolio Management* 26, no. 2 (2000).

[36] See Wood, *Radicalism*: 7. See also, e.g., Joyce Oldham Appleby, *Inheriting the Revolution: the First Generation of Americans* (Cambridge, MA: Belknap Press of Harvard University Press, 2000); Louis Hartz, *The Liberal Tradition in America; an Interpretation of American Political Thought Since the Revolution*, 1st ed. (New York: Harcourt Brace, 1955); James Willard Hurst, *Law and the conditions of freedom in the nineteenth-century United States* (Madison,: University of Wisconsin Press, 1967). For a recent historiography that arguably adds a new chapter, consider the emphasis on consumption. See, e.g., T. H. Breen, *The Marketplace of Revolution: How Consumer Politics Shaped American Independence* (Oxford: Oxford University Press, 2004).

industry of production, the impersonality of capitalist competition – these were the primal forces that originally animated the fatal misappropriation of power at the heart of capitalism. Thus "market" exchange does battle with exchange organized around logics that are feudal, communal, traditional, religious, or local. Ideology, culture, psychology, and categories of thought take an increasingly important place in modern scholarship. But they are often deployed to understand a mentalite or social practice that is "market" or not, economistic or not.[37]

If the market is "real" economic activity, then money is its "formal" partner. That does not mean that money is unimportant; it is as essential as the function it performs. Only when a medium exists, value can be measured, and assets can be stored in liquid form can individuals specialize as owners, producers, or workers, set or receive wages, calculate risks and profits; only then can "the market" penetrate time and space in the way that the standard narrative identifies as distinctive to modernity. Money's functions – its capacity as a medium of exchange, unit of account, and store of value – furnish the definition of money. Indeed, that trinity becomes the shorthand for money in most accounts.[38] As Geoffrey Ingham put it, "money is what money does."[39]

If money is a purely instrumental entity, then it enables but does not affect the substance of trades. The classical image of the economy follows:

> [The idealized economy is] a frictionless, costless system of multilateral barter, in which relative prices and the allocations of labour and capital among various productive activities are determined in competitive markets. [The] proposition is that the outcomes of an economy with money are the same as those that would

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[37] See, e.g., Polanyi, *Great Transformation*; Charles Grier Sellers, *The Market Revolution: Jacksonian America, 1815-1846* (New York: Oxford University Press, 1991); Henretta, *Origins of American Capitalism*; Agnew, *Worlds Apart*. See also those unaligned skeptics of modernity, like Weber, Muldrew, and Sandel. Max Weber, *The Protestant Ethic and the Spirit of Capitalism*, trans. Talcott Parsons (London: Routledege Classics, 2001 [1930]); Craig Muldrew, *The Economy of Obligation: The Culture of Credit and Social Relations in Early Modern England*, Early modern history (New York: Macmillan, 1998); Michael Sandel, "Markets and Morals," (Harvard Law School, 2010).
[38] Levine, "Financial Development," 690-703; Radford, "P.O.W. Camp," 194; Friedman, *Optimum Quantity*; Ostroy and Starr, "Money and the Decentralization of Exchange,".
[39] Ingham, "Underdevelopment," 3 (critiquing functionalist approach to money).

> arise from their ideal barter model. The corollary is that real economic outcomes are independent of the particular nature of the monetary institutions.[40]

If money's character is purely expressive, it amounts to information. Given the ability to capture value that money represents, agents can make contracts for future commodity sales and can adjust for contingencies by setting conditional terms – Arrow-Debreu contracts. That capacity confirms the possibility that there is a general equilibrium at which the aggregate demand for every good meets aggregate supply for that good.[41]

Keynes would most famously attack at this point based on the stubborn reality that, whatever the postulates of classical theory, people attribute substantive value to having the liquidity provided by money. They insist on holding certain amounts of it as a store of value, despite the fact that they should be able to arrange for contingencies without immobilizing an amount of money. That allocation of resources introduces imperfections into the market for goods and services. Aggregate demand may fail to meet aggregate supply.[42]

Despite the revolutionary impact of Keynes's theory on economics and its continued influence at the academic level, in policy-making, and in popular thought, belief in the "classical dichotomy" remains dominant. A commitment to the notion that the market is "real" and money is neutral agent, at least in the long-run, controls in the basic economics text and shapes economic decision-making.[43] The strength of that

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[40] Tobin, "Money," 10. As Tobin clarifies, this is the sense in which classical economists claimed money was a "veil." They were not claiming that money did not matter or that a society without money would have the same real economy as a society with money. Ibid., 9-10.

[41] Mark Blaug, *Economic Theory in Retrospect*, 5th ed. ed. (Cambridge: Cambridge University Press, 1996). 553-54. Proponents of the view recognize that the costs of commodity money make it an imperfect choice for money. Adam Smith made the point long ago. See Adam Smith, "Chapter II (continuation): On Money considered as a particular Branch of the general Stock of the Society, or of the Expense of maintaining the National Capital " *An Inquiry into the Nature and Causes of The Wealth of Nations* (1937 [1776]).

[42] John Maynard Keynes, *The General Theory of Employment, Interest, and Money* (New York: Harcourt Brace, 1936). [chaps. 16, 17]. For a wonderful restatement by Keynes of his argument, recently rediscovered by Steve Marglin, see John Maynard Keynes, "A Self-Adjusting Economic System?," *The New Republic*, Feb. 20 1935.

[43] See Marglin, *Raising Keynes: A 21st Century General Theory*: [Introduction]. For the absence of liquidity as a consideration in risk assessments, see Mehrling, "Minsky and

paradigm, or deference to the Keynesian assault, suppresses significant challenge from other disciplines.[44] In unwitting consonance, the obvious recourse for those critical scholars who understand money as a "veil," a con, and chimera is to lift it aside, to get beyond it, and to see through it. Their inclination, in other words, is to find *somewhere else* the actual workings of the modernity and the power relations that animate it.[45] We are back to "the market" as the site of the real.

Note how the binary that casts the market-as-real and money-as-information (or alternatively, money-as-illusion) draws from the creation story written for money. Money stems from convention, and convention is immaterial, "costless," or "colourless." It is the result of decentralized activity as opposed to a collective project. While the latter would, by its organization of participants, define value in a way that has materiality, the former defines value only as knowledge; information (or illusion) is free.

The "market" and "money," defined as they are by the conventional creation story, reinforce each other because of the way they channel our attention; the overall effect is to give the modernization narrative great durability. The formal partner of the money-market dichotomy does not repay analysis because it is a function or a signifier

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Modern Finance,". The profuse "securitization" of the 1990s and early 2000s was conceived as a way of diversifying risk and so reducing it, thus making an ever more abundant and inexpensive credit available to borrowers. For that view and the response that securitization in fact engendered more risk, see Anastasia Nesvetailova, "The Crisis of Invented Money: Liquidity Illusion and the Global Credit Meltdown," *Theoretical Inquiries in Law* 11, no. 1 (2010); Krugman, NYT, 3/27/09; Hyman P. Minsky, ""The Financial Instability Hypothesis"," *Working Paper No. 74* (1992).

[44] Geoffrey Ingham portrays sociology's aversion to analyzing money as part of a disciplinary settlement between it and economics; William Reddy emphasizes the Whiggish tilt of historians who incorporated the facilitative capacity of money as part of the meta-narrative of Western progress. Ingham, "Underdevelopment,"; William M. Reddy, *Money and Liberty in Modern Europe: A Critique of Historical Understanding* (Cambridge: Cambridge University Press, 1987). 34-46. That default is basically complete where the *economic* aspects of money are concerned, although scholars like Viviana Zelizer consider *social* uses and interpretations of money. Ingham, "Underdevelopment," 3; see, e.g., Zelizer, *Social Meaning*; Valenze, *Social Life of Money*.

[45] In striking confirmation that their approaches approach money in a common way, both orthodox neoclassical economists and their critics describe it as a "veil." See Ingham, "Underdevelopment," 4-5, 6-7; compare Robertson, *Money* (Chicago: University of Chicago Press, [1922] 1959). 7.

only -- merely a means to the market's end. But while it appears empty or technical, "money" packages a controversial view of human nature and society. Money's very existence – if it came about in bipolar exchange between enterprising agents, each calculating his or her own interest -- becomes evidence of that activity as the root of economic life and its logic.

The real partner, the market, relies on that deep coding to gain definition as authentic and undeniable. Once we have agreed on the character of money, the *activity* conducted by money – exchange by enterprising individuals -- is confirmed as primal and productive. The message is that the market is at once basic, as basic as its partner, and the site of literal materiality, a materiality that its monetary partner facilitates, transmits, or effectuates, for better or worse.

The money-market intuition gains resilience because it is built into the very vocabulary of the conventional creation story and produced in the practices that story promotes. That is a vocabulary of agency either poured into things or captured in conventions. It is a story of people either liberated or unmoored. It is an approach that understands "the social" as the pattern of their choices or as the fragile space opposed to their atomism. In this world, the political economy pitches between promoting energy and productivity on the one hand, and protecting the public welfare, social meaning, and cultures (popular, indigenous, local, etc.) on the other – as if these were discrete values and it were a matter of striking a balance. The debate turns on whether "the market" may need regulation, and whether the reach of money may need restraint. Indeed, in many ways, the narrative of modernization – as a story of the market and money -- operates in terms of innate dichotomies that are entrenched even as they are qualified or resisted. Taken together, these dynamics go a long way to reify the contemporary political economy so that it is found, like money itself.

B. Money as a Constitutional Project

We can imagine conditions that would make the "convergence" story possible. We assume exchange with enough momentum to generate the medium supposed itself to generate exchange. We assume as well the background terms that would make that initial exchange possible. There must be notions of property that identify objects with

individuals, modes of contract or agreement that allow transactions, and enough enforcement to protect those claims of ownership and transfer, all these despite the absence of authorities acting with a medium to pay for such governance work. We assume that, given those hypothesized safeguards, people making a subsistence living in a pre-monetary era set aside an item durable enough to last the amount of time it takes in a barter economy to find a trading partner. (Silver appears again and again as money, although it is expensive, inedible, of little practical use, and unworkable by untrained hands.) In fact, we assume that people safely hold, indeed accumulate, some material like metal in raw form on the prediction that other people will want it, before it has emerged as a medium. We assume that, in an unspecialized world, countable units with enough uniformity, authenticity, and transparency to convey value in countable form appear with enough frequency before money to take office as money.[46] We assume, finally, that once money appears, it stays in circulation by some sort of network effect, insulated from big men who would break the consensus by cornering the medium, marauders who would steal it, and fickle individuals who would renege in their desire for it.

In other words, the area of "assuming" required to make the convergence story is enormous. As the following chapters argue, the convergence story is also in tension with the history of money we have. It is even more surely inconsistent with the practice of money today, a matter of paper, balance sheets, and central banks.

Alternatively, we could look for a creation story that explains how money emerges without assuming the exchange it is supposed to enable. Money has arisen again and again, in many places and periods; it must start from a source more robust than a scaffold of assumptions. In fact, a creation story should go beyond money's initial appearance, it should also makes sense of money's continued operation. The practice of money daily re-enacts the beginning (and end) of money, as it maintains the flow of money in (and out) of circulation. We need a story that acknowledges, even draws upon, money's constant construction. Finally, a creation story should illuminate the connection

[46] A side-channel of convergence theorists imagines that people create a unit out of private promises. In order to make that variant work, we assume interpersonal exchange so civilized as to run on an abstract unit of obscure (possibly miraculous) origin and credit alone.

between the way money works and the exchange it enables, including the objects labeled commodities by their sale. The relationship between money and the market should be explored, rather than postulated.

Conceptualizing Money Creation

If we consider clues about money's origins and extrapolate from its continuing practice, another story comes into focus. It suggests that money is a constitutional project, a mode of governance for a material world. Money is a means of mobilizing resources across a collective, one created when people advance in-kind value to a stakeholder in return for a unit that represents that advance. The process both entails material value – the advance to the stakeholder is real – and converts it into a form that everyone else recognizes – the advance holds independent value because it offers a countable measure that can be transferred to make final payments. That character of money enables new activity. Rather than emerging from trade, money instead creates the trades it facilitates. Put more accurately, rather than a generic (money) produced by a generic (exchange), money appears as a particular initiative that creates exchanges of particular kinds. Money can be conceptualized as a process that organizes a group and redirects individuals, even as those agents make and remake money. Nothing about the phenomenon leads obviously to capitalism, or in any other direction. Rather, as people pioneered different kinds of money, they created different kinds of markets.

If we take the beginning of money seriously, we arrive in a place that is dramatically drier than the broth of barter that modern commentators might imagine. There is no "unit of account" or shared means of measuring. There is no universal mode of settling accounts and no common medium. There is no activity that produces price, whether in grain or barley, or the shadow liquidity of silver. People may exchange items, but "barter" is likely far from the triangle of swaps – a cow for ten chickens, ten chickens for the pot desired at the outset – that later commentators often impute to it. However people transfer goods and services between themselves depends not only on how they

value those things, but on what practices of claiming, using, giving, and taking goods and other resources exist.[47]

The early English experience offers a setting with some similarities. According to historians of early money, the use of money broke down in Britain after the Roman army left and administrative connections ended. The imperial economy had been highly monetized; spending and taxing in coin spread it throughout the territories, while Roman law supported money's use in private exchange.[48] When the fiscal pump failed and authorities withdrew, the money once pushed into circulation stopped flowing to the island. According to Peter Spufford, "within a generation, by about A.D. 435, coin ceased to be used there as a medium of exchange . . . although many survived as jewelry, or were used for gifts or for compensation."[49]

More recent accounts, informed by archaeological advances, qualify that conclusion. They suggest that some coins still arrived, although in small numbers, from the Continent, where their use as money continued to some extent. Some communities may also have kept using Roman-era silver coinage for some time to compensate those defending their settlements; samples from 5th century hoards in Britain are clipped in ways that may suggest they were recycled in systematic ways. Hoards have also produced low-value bronze Roman tokens that could have circulated after their issue, if

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[47] For a review about the way those activities are characterized in economics and anthropology, see Marshall Sahlins, *Stone Age Economics* (New York: Aldine de Gruyter, 1972).

[48] Rory Naismith, *Money and Power in Anglo-Saxon England: The Southern English Kingdoms 757-865* (Cambridge: Cambridge University Press, 2012). 37-39; Gareth Williams, "The Circulation and Function of Coinage in Conversion-Period England, c. AD 580-675," in *Coinage and History in the North Sea World, c. AD 500-1250*, ed. Barrie Cook and Gareth Williams (Leiden, the Netherlands: Koninklijki Brill NV, 2006), 149; A. S. Esmonde Cleary, *The Ending of Roman Britain* (London: B.T. Batsford, 1989). 8-12; Peter Spufford, *Money and its Use in Medieval Europe* (Cambridge, UK: Cambridge University Press, 1988). 9-22. For a discussion of Roman law, see TAN __ [chapter 2].

[49] Spufford, *Money and its Use*: 9, 14-22; Stewart, in C. E. Challis, *A New History of the Royal Mint* (Cambridge, UK: Cambridge University Press, 1992). 3-4; Esmonde Cleary, *Ending*: 138-61; J. P. C. Kent, "From Roman Britain to Saxon England " in *Anglo-Saxon Coins*, ed. R. H. M. Dolley (London: Methuen & Co., Ltd, 1961).

only in some locales. Scholars argue as well that coin found refashioned into ornaments may have had a previous use in exchange.[50]

But even the revolution in numismatic evidence that has occurred since the 1970s with the advent of metal detecting and the increase in coin finds has not rewritten the bottom line.[51] Gareth Williams, one of the scholars most sensitive to the possibility of monetary continuity, concludes that the evidence "suggests an attempt to prop up a failing system for as long as possible, in the absence of a proper coinage supply from central government." The view that "there was a complete break in the coinage system is hard to challenge."[52] Most recent contributions to the debate agree: from sometime after 410 until about 610, there was little coin circulating as money in England. As Rory Naismith puts it, "minting and coin-use in Britain had to be rebuilt from the ground up."[53]

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[50] On imported coin and residual Roman coin, see Williams, "Coinage in Conversion-Period England," 151, 53-54, 59-63; Richard Abdy, "After Patching: Imported and Recycled Coinage in Fifth- and Sixth-Century Britain," in *Coinage and History in the North Sea World, c. AD 500-1250*, ed. Barrie Cook and Gareth Williams (Leiden, the Netherlands: Koninklijki Brill NV, 2006), 83-88, 91-95. Abdy cautions that the importations appear occasional and "not for any systematic purpose." According to a recent review of the archaeological evidence, light imports circulated through the lowland areas of England in the 6th and 7th centuries, but more significant imports were common only in Kent. Chris Wickham, *Framing the Early Middle Ages: Europe and the Mediterranean, 400-800* (Oxford: Oxford University Press, 2005). 808-09. On bronze Roman coin, see also Kenneth Dark, *Britain and the End of the Roman Empire* (Stroud, 2000), who argues more strongly for its continued use, and T.S.N. Moorhead, who contests that view. T. S. N. Moorhead, "Roman Bronze Coinage in Sub-Roman and Early Anglo-Saxon England," in *Coinage and History in the North Sea World, c. AD 500-1250*, ed. Barrie Cook and Gareth Williams (Leiden, the Netherlands: Koninklijke Brill NV, 2006); see also Esmonde Cleary, *Ending*: 140. On re-used coin, see Williams, "Coinage in Conversion-Period England," 161-69.

[51] Individual coin "finds" offer clues to coin use different from those found in burial sites or hoards. The latter represent coin dedicated to ritual use or laid aside from circulation while coin finds plausibly reflect coin lost in use. Williams, "Coinage in Conversion-Period England," 151-52.

[52] Ibid., 158..

[53] As Naismith continues ". . . just like many other aspects of government." Naismith, *Money and Power*: 15; Anna Gannon, *The Iconography of Early Anglo-Saxon Coinage* (Oxford: Oxford University Press, 2003). 7-8; see also Abdy, "After Patching," 94-95 (arguing that transition to "a bullion-using society where coins (so long as they were of precious metal) were incidental" had occurred by 470 in England).

The vacuum left by coin's demise was not substantially filled, as far as the record reflects, with another medium.[54] In the wake of the imperial retreat, writes Chris Wickham, "exchange structures collapsed everywhere." The material break with the earlier world that occurred in the 5th century was dramatic. The sheer drop in "the sophistication of material culture," Wickham notes, "might seem too total to be credible" but for the very wide base of evidence supporting it. Pottery and other industries disappear. Roman sites are reappropriated for structures so simple as to resemble Iron-Age dwellings. Written sources vanish; conversely, Gallic sources rarely mention England.[55] The layer of "dark earth" that covers some Roman towns is especially evocative of collapse. Once assumed to come from the decayed material of those settlements, it is now considered to represent the turn to organic building material by later inhabitants.[56] While scholars debate how to interpret the "dramatic material collapse" of 5th century England, they widely agree that it occurred.[57]

The conditions in England after the departure of Roman forces suggest the terrain on which we should look for money's creation. For individuals, the circumstances sharply circumscribed trading. Production of wares moved to the household: ceramics were hand-made there; clothing was woven family by family. Households surely dealt with one another but distance and the difficulties of travel, scantiness of communication, and lack of information made barter unwieldy. Commercial demand was virtually non-

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[54] Cf., Naismith, *Money and Power*: 290; see also note __, supra, re residual coin use in 5th and 6th centuries. Christopher Loveluck notes evidence of trade with continental Europe at Flixborough, England prior to the late 7th century, but no findings of coin or other media of exchange. Christopher Loveluck, Keith Dobney, and James Barrett, "Trade and Exchange -- The Settlement and the Wider World," in *Rural Settlement, Lifestyles and Social Change in the Later First Millenium AD: Anglo-Saxon Flxborough in its Wider Context*, *Excavations at Flixborough* (Oxford, UK: Oxbow Books, 2007), 112-13.

[55] Wickham, *The Early Middle Ages*: 338, 06, 08-09.

[56] See Esmonde Cleary, *Ending*: 147-48; Richard I Macphail, Henri Galinie, and Frans Verhaeghe, *Antiquities* 77, no. 296 .

[57] Wickham, *The Early Middle Ages*: 308. See, e.g, Naismith, *Money and Power*: 15; Williams, "Coinage in Conversion-Period England," 158-59; Esmonde Cleary, *Ending*: 131; R. Reece, "Models of Continuity," *Oxford Journal of Archaeology* 8, no. 2 (1989). Kenneth Dark reviews the debate and argues for a more developed Romano-Christian culture that survived in Britain until the 7th century. See Dark, *Britain and the End of the Roman Empire*: 10-26.

existent; there is no evidence of exchange networks of any extent until the late 7th century. "All forms of market exchange, beyond the simplest," Wickham concludes, "must have ceased."[58] It is difficult to conceive that a metal, hard to work and impractical for everyday use beyond the aesthetic, would begin to circulate as money because people had incrementally or spontaneously converged on its use.

But individuals were not the only actors in England. Communities operated continuously. As in other worlds, people formed bonds for social life, mutual protection, and shared production. Wickham describes early Anglo-Saxon societies as groups made up of peasants who were self-supporting economically, brought together by ties of "mutual obligation and loyalty," often with family connections. People maintained their stakes in the group with regular contributions. Rulers, often on the order of small chiefs, took tribute in food, labor, and "above all, army service."[59] They obviously offer only one example of communal organization and varied even across Britain. Groups elsewhere and in other periods could organize around kings or counsels, more structured governing bodies, or representative institutions. We could call those leaders, taken generally, "stakeholders" to capture the variety of ways they anchored groups without implying that "states" engineer every collective activity or act of governing.

Transferring goods between individuals, the agents in the convergence story, is hard enough in a society that is truly illiquid. But individuals can get by in subsistence production, making one-off exchanges, or with idiosyncratic arrangements between reciprocating partners. Mobilizing the material resources and labor of a group is far more difficult. The goal may be defending a territory or taking more of it, clearing and cultivating common space, or policing, educating, or caring for people. In early England, the construction of defensive fortifications and bridges were especially common.[60]

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[58] The number of looms found in England far exceeds those recovered from Gaulish settlements, indicating that each home did its own weaving. Wickham, *The Early Middle Ages*: 809, 307. As Wickham puts it, what was "recession" in Gaul, reversed after AD 500, turned into "catastrophe" in Britain. Ibid., 307..

[59] Ibid., 305, 15, 20-21.. Feudal dependencies were a later development.

[60] Ibid., 315.. The same tasks are emphasized in the later Anglo-Saxon period. See V Aethelred, sec. 1 (1008), as reprinted in Appendix, Ellen Screen, "Anglo-Saxon Law and Numismatics: A Reassessment in the Light of Patrick Wormald's *The Making of English Law*," *British Numismatics Journal* 77(2007): 169.

Whatever the goal and whoever the instigator, a collective enterprise is an enormous challenge in a landscape without liquidity. It requires more than aggregating contributions; it requires collecting and coordinating, evaluating, protecting, preserving, and redistributing them.

Like many other communities, those that emerged in 5th and 6th century England relied heavily on labor drafted from participants and tribute taken in-kind. Charters from the following centuries suggest that kings accepted honey, bread, "ambers" of ale, livestock, cheese, butter, and fish.[61] Those contributions informed their power and the structure of their rule. The early Anglo-Saxon leaders had a practice, for example, of circulating through their territories, a habit that may have been driven by their need to gather support in-kind.[62] That technique, however, must have run into limits given the finite resources of hosting families, and may help explain the small size of many political communities. Larger collective projects -- Offa's dyke, a defensive fortification of the 8th century offers one example –would have required a more orchestrated approach; the dyke may have been constructed with labor impressed proportionately across the Mercian territory.[63] Communal undertakings could be orchestrated in other ways – feudal relationships and reciprocal work efforts. But an alternative that appears regularly, across different communities and in very different forms, is making money.

Making money, a phenomenon almost impossible to explain if we limit our field of vision to individuated exchange, becomes easily comprehensible once we enlarge that lens to include the collective activity that links individuals and communities. Stakeholders in the early world, those organizing a group and its resources, had particular need for a medium – but as actors with a unique relationship to those around them, they also had the unmatched capacity to create it. In fact, making money was likely easier, in many ways, that many alternative ways of organizing resources. Money is a way to mark and mobilize material value that can start at the center, work selectively and with limited information, and yet enlist the contributions of a broad group. Contrary to our intuitions,

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[61] Wickham, *The Early Middle Ages*: 321.
[62] See D. M. Metcalf, *Thrymsas and Sceattas in the Ashmolean Museum Oxford*, 3 vols., vol. 1 (London: Royal Numismatic Society and Ashmolean Museum, 1993). 12-13; Naismith, *Money and Power*: 29-30.
[63] David Hill, "The Construction of Offa's Dyke," *The Antiquaries Journal* 65(1985).

making money requires less political prowess or bureaucratic capacity than orchestrating an initiative by eliciting and redirecting resources, in-kind, from all participants.

Money is created when a stakeholder uses his or her singular location at the hub of a community to mark the disparate contributions of individuals in a common way. The moment occurs when the stakeholder takes contributions from people before they are due and gives out uniform receipts in return, each a token intended to document the early contribution. That token, turned in later at a time of reckoning, operates to convert goods and services that are not otherwise fungible – the variety of contributions due to the center -- into matters counted in a standard unit. The initiative requires only one more twist to make money fully operational: if the stakeholder recognizes the receipt and takes it from anyone's hand as an item that exonerates the person holding it from making a contribution otherwise due, the receipt can travel from hand-to-hand and maintain its worth as an item that pays off the center. The result is a token that fixes or entails value in a way that both the stakeholder and individuals can use, a novel accomplishment in a world without an agreed-upon way to measure and transfer resources.

An example makes the strategy more concrete. A small Anglo-Saxon ruler of the early 7th century may have taken goods and labor regularly from a thousand families on rounds of the territory they all inhabited. Facing a threat from another community, however, he might at one point draft extraordinary services and supplies from a hundred of them, rewarding them with tokens to recognize that their contributions had been double that ordinarily due and promising to take back the tokens in the future, each one in lieu of the next quota of tribute. The families could set aside the tokens, satisfied to know that they had satisfied an obligation in advance. Or, willing to resume giving tribute to their chief on the next round, they could pass their tokens on to another person or family – there may be many takers willing to give real value (good, labor, loyalty, etc.) for a token. Those new families may prefer giving resources now to paying tribute later; they will set their token aside to give the ruler when their quota is due. Or they may make the exchange because they anticipate that they can use the token in another trade. Never before could they depend upon having an item to which virtually everyone else in the community would attribute real value. Now, every person has reason to look to the

tokens as a meaningful measure, store of (real) value, and mode of payment that can change hands.

Unpacking the example illustrates the way money functions for both the stakeholder and participants. First, the strategy provides the community, acting in the figure of its ruler, an effective way to mobilize goods and services because the token entails real value. Each token awarded by the stakeholder represents actual resources that have been given to the center. Each token has, in that sense, a material referent: the token was given to mark an amount of goods or labor contributed and it will, according to the terms of the system set out above, exonerate someone later from a contribution of the same dimension.[64] A successfully working money thus carries or fixes material value within each token, whether that money is made of silver or paper, whether it takes a commodity or a "fiat" form. In fact, the material referent of a token will be made "real" in physical terms if need be. If those owing contribution to a stakeholder do not pay with a token, they will make their usual contribution in-kind. Later systems may be more completely monetized, so that revenue is expected in cash. But if a debtor to the system does not pay, an authority will confiscate other goods – houses, capital, or earnings – to make good the obligation. The obligations that support a money can take many forms -- tribute, rents, fees, tithes, or penalties. But given that taxes most powerfully anchor modern monetary regimes, we can appropriately call the material referent of a token its "fiscal value."

Entailing value in a token allows a stakeholder to command resources with great effect. The stakeholder can "buy" what it needs when it needs them, paying in receipts that it takes back later. In effect, the stakeholder gains the capacity to spend and tax *in* money *as* it makes money. The stakeholder can spend heavily on one good, labor or military service, while taxing or taking tribute widely. The soldiers or suppliers earning extra tokens in the example above would have reason to trade them to others for goods or services. Those others, owing tribute, tax, fees, or other contributions to the center, would sell the soldiers and suppliers up to the same amount of material they otherwise owe the center. The tokens would enter the community when the stakeholder paid for

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[64] For fine-tuning of the contribution's size, which might be lightened in return for its being given in advance, see infra note __

particular goods, radiate through the group as they circulated, and then return as people offered them in instead of other, in-kind contributions. Although he dealt with only a narrow group of suppliers, the stakeholder would thus draw on a broad catchment of contributions.

Depending on how the strategy was managed, it could move the community towards highly monetized dealings: as the stakeholder "spent" heavily at the outset, it would take in more tokens and less tribute of other kinds at the time of reckoning. Eventually, a community could run its public affairs purely by taxing and spending. On the other hand, the strategy could also be a limited initiative, one that reached only certain circles of people. For example, a ruler might pay for certain supplies in tokens, which could come to travel in near proximity to those sellers – merchants, for example, in towns. At the same time, the contribution of peasants could be maintained in-kind or labor. Monetary initiatives that were partial or selective in this sense would help produce the dichotomized payment patterns that appear in many societies.[65] The point here is that a stakeholder greatly expands its capacity when it can mobilize resources as it chooses. Money, it will turn out, is an enormously effective mode of governing.

A number of economists have modeled money in ways that confirm its fiscal value. They suggest that money can be conceptualized as an asset or, more precisely, the claim to an asset, that holds value according to the utility people anticipate it will have in extinguishing a future tax obligation. A government can spend by giving people currency that is, basically, a credit good for paying upcoming taxes (or tribute, as in our original example). As long as the government convinces people that it will reliably tax in the notes it has spent – redeeming them, in effect -- the notes will hold value equal at least to their future expected value to pay the tax.[66] Comparing money to a financial

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[65] See, e.g., Mark S. Peacock, "Accounting for Money: The Legal Presuppositions of Money and Accounting in Ancient Greece," *Business History* ([2013]): 283-84 (describing specialized exchange between palace and merchants in early Mesopotamia).

[66] Note that the future expected value attributed to money would include a discount, if money is used only as a device to satisfy a future obligation. See below for discussion. See infra TAN ___ (a few pages on). More generally, see, e.g., Thomas J. Sargent, "The Ends Of Four Big Inflations," in *Conference on Inflation* (Washington, DC: National Bureau of Economic Research, 1981); Bruce D. Smith, "American Colonial Monetary Regimes: The Failure of the Quantity Theory and Some Evidence of an Alternate View,"

asset backed by a future revenue stream, the "asset-pricing" approach evokes in its name the importance of money's material referent.[67] Post-Keynesian "functional finance" theories may be read to assert a very similar theory: the government can expand the money supply in real terms by spending and taxing.[68]

But even more classic approaches, those arguing that money is always a medium and never an asset, generate the same insight. According to these theories, money holds value insofar as demand for it as a medium remains constant relative to its nominal supply, all else equal (an assumption carried forward throughout). When a government adds to the currency in circulation, money will lose value. If, however, the government credibly commits to contracting the quantity of money in circulation, demand for money will rise as well as people anticipate its approaching scarcity, countering the effect of the expansion.[69] Just as the asset-pricing approach predicted that money would hold its

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Canadian Journal of Economics 18, no. 3 (1985); Charles W. Calomiris, "Institutional Failure, Monetary Scarcity, and the Depreciation of the Continental," *Journal of Economic History* 48, no. 1 (1988); Bruce D. Smith, "Money and Inflation in Colonial Massachusetts," in *Quarterly Review (Federal Reserve Bank of Minneapolis)* (Federal Reserve Bank of Minneapolis, 2002). A number of asset-pricing models were developed to explain the success of early American bills of credit. Farley Grubb, the scholar with the widest knowledge about and range of data from the colonial era, models paper money as a zero-coupon bond. Although he does not use the terminology of asset-pricing, his instrument holds value contingent on its future redemption. See, e.g, Farley Grubb, "Is Paper Money Just Paper Money? Experimentation and Local Variation in the Fiat Monies Issued by the Colonial Governments of British North America, 1690-1775," in *NBER Working Papers* (Washington, D.C.: National Bureau of Economic Research, 2012); Grubb, "Specie Scarcity and Efficient Barter: The Problem of Maintaining an Outside Money Supply in British Colonial America,".

[67] For this terminology, see Smith, "American Colonial Monetary Regimes," 533; Sargent, "The Ends Of Four Big Inflations," 5.

[68] See, e.g, Abba P. Lerner, "Functional Finance and the Federal Debt," in *Selected Economic Writings of Abba Lerner* (1943).

[69] That is because when individuals, confronted with an increase in the money supply, confidently anticipate that the supply will soon be reduced, they will build that assumption into their calculations of monetary value. The increased money supply will be offset by an increase in demand produced as holders, assuming that prices will be dropping as money is withdrawn, decide to hold more money to benefit from the deflation that they predict. See Scott Sumner, "Colonial Currency and the Quantity Theory of Money: A Critique of Smith's Interpretation," *Journal of Economic History* 53, no. 1 (1993); see also Peter Bernholz, "Inflation, Monetary Regime and the Financial Asset Theory of Money," in *Kyklos* (Blackwell Publishing Limited, 1988).

future expected value to pay the tax, classic approaches predict that money will hold value relative to "its expected value as a medium of exchange" given the quantity of money and the demand for it when the money is withdrawn. Theorists in this tradition argue that people are considering the government's "promise regarding the future path of the money stock," along with the expected demand that promise produces when they calculate future expected value.[70] But the "promise" at issue is the commitment to tax (or take in the money by fees, tithes, or otherwise) made after the act of expansion by way of spending. Consistent with this approach as well then, we could refer to money having a value fixed or entailed by the fiscal system.

Second, money functions in ways that affect the opportunities of individuals along with those of a stakeholder. Its identity as a token carrying real value is not limited to the person paid. Once authorities at the center have agreed to take it back from anyone's hand in payment of an in-kind quota, others will recognize it as a token valuable to themselves and to those around them. For the first time in a society without money, there is a unit that represents material value relevant to everyone (or virtually everyone), given their common relationship to the stakeholder. That opens up the possibility of new exchange: people who owe the center regular tribute might rather deal with one of the soldiers or suppliers holding tokens. They could trade goods to him and keep the token to satisfy their later obligation to the center. Or people might trade for a token because they know they can use the token to make another trade; others will take the token if they want to use it to pay the center or for their own productive transactions.

The tokens offer a singular quality in this otherwise illiquid world, the quality of cash. They provide a measure of recognized value or unit of account, thus making prices possible. They operate to transfer that value as a medium when they travel hand-to-hand. And they accomplish payment unconditionally: because they entail value that the stakeholder as a third party recognizes, parties who are strangers can use them pay others and complete the transaction without further relations. Between the time a token is

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[70] Sumner, "Colonial Currency," 142. Note that, as above, the value of money determined relative to a future contraction may mean that money at an earlier point travels at a discount. See infra TAN __ (discussion a few pages on).

issued and the time it is retired, then, the token furnishes interim services as cash to individuals.

The premium that people attach to tokens – we might call it a "cash premium" in recognition of the services that cash provides -- is just as substantive as the fiscal value of tokens. In order to see the materiality of the cash premium, we need only acknowledge that a person might choose to make a contribution early to the stakeholder in order to acquire a token because of the utility of the token. In effect, the person will be advancing the time value of a contribution for the cash services of the token. Normally, people will decline to provide work or goods before they are due. Working up front for themselves instead of another allows them to make investments – planting seeds, for example – that will be productive later. If, however, money offers services to people that are themselves productive, then some people will work for money before the tribute they owe is due. In our example, making a contribution early for a token might allow a farmer to use to token to buy fertilizer, labor, or a different kind of seed not otherwise available to him. Others might come to the same conclusion – they may sell goods or labor to the farmer before their contribution is due to the center because they want to use the token in the meantime. (This is not to deny some stakeholders with enough power could force an early contribution. It is just to assert that force is not the only reason that a system in which people advanced work or goods might work.)

In fact, the cash premium that people attach to money means that they are often willing to buy money directly from a stakeholder, without waiting for that source to spend units into circulation. Free minting, described below, provided one method by which governments sold individuals money for bullion during the medieval period. Later government arranged other ways to provide money creation on demand, including selling people Exchequer bills or extending them money loans in public bills of credit.[71] Most famously, in the modern era, the government licenses commercial banks to act as agents authorized to multiply the sovereign unit of account. Each method allows people to expand the number of units circulating beyond that produced by the fiscal activity of the

[71] Exchequer bills are discussed below, infra TAN __ [chapter 9]. For an example of public lending via bills of credit, see Theodore Thayer, "The Land-Bank System in the American Colonies," *The Journal of Economic History* 13, no. 2 (1953).

stakeholder or government at the center, supplementing the amount of money generated by public spending alone. Each approach has also raised complex questions about how the supplementary money – money created to respond to people's demand for cash services -- is tied to the sovereign unit of account established by public fiscal activity and supported by taxpayers. To get far ahead of our history, that issue is one way to understand the tumultuous history of commercial banking and, most recently, the financial crisis of 2008.[72]

Again, a number of economic models confirm that cash provides services for which people will advance the time–value of resources. Recall that asset-pricing models describe the fiscal value of money as its expected future value in extinguishing a tax obligation. That logic explains why a token that offers tax exoneration holds real value. It also predicts, however, that people will discount that value: a token that works to pay off an obligation due next year or five years from now is worth something less than the value of that obligation today.[73] That prediction is qualified by one circumstance: if money is a productive asset – one that provides significant services – people will hold it without discounting it.[74] After all, they are getting a return from money in the form of the cash services it provides. The classic models make the same prediction and include

[72] For a sample of approaches that attend to the issue how govenrments enable and otherwise relate to money creation by banks and shadow banks, see Morgan Ricks, "Preface and Introduction," in *A Monetary System Design* (2013); Ricks, "Money Creation,"; Gary Gorton, *Slapped by the invisible hand: the panic of 2007*, Financial Management Association survey and synthesis series (New York: Oxford University Press, 2010).

[73] Again, the time-value of resources is at work. Rather than having a token that is non-productive, a person would rather have the goods or resources that it represents in the year to come. Those goods or resources could be put to use fruitfully whereas, if the token is only a fiscal asset, it provides no other services. The models assume, therefore, that people who hold money only as a fiscal asset will discount its value by the real interest rate – the rate of other productive assets. See, e.g., Grubb, "Paper money," 18-27; Calomiris, "Institutional Failure," [48-49]. If we have a non-coercive stakeholder, the stakeholder would respect the discount by providing a token that would exonerate someone from a future obligation, but take a lower in-kind contribution than would be due if the person who owed it provided it at the usually time.

[74] See, e.g., Calomiris, "Institutional Failure," [48-49] [quote re liquidity services]; other.

the same qualification.[75] In other words, the discount we would expect if people value money only because of a future condition is washed out by the premium we would expect if people recognized as valuable its services as cash in the interim.[76] To the extent that is true, the value of money – and therefore prices across the economy – remain stable.

Recognizing the cash premium attached to money makes sense of the empirical evidence collected on early America, a relatively simple monetary terrain with money made by tax anticipation and limited forms of circulating credit. Legislatures there made stable money in a cash-poor environment when they spent "bills of credit" into circulation as long as they taxed in the bills reliably and settlers used them as money in the meantime.[77]

Mapping the fiscal value of money and its cash premium reveals that they share a structural relationship. Money depends on a basic pact: participants advance the time value of a resource owed to a stakeholder in return for that actor's unique ability to create cash – a way to fix material value in a unit that can be used as a measure, a mode of unconditioned payment, and a medium. There is much more to be explored here: if money is thus engineered, we would expect that its value would change according to how much utility people anticipated it would have for paying taxes and how much value it

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[75] As above, these models assume that there will be inflation on the issue of additional money. According to this prediction, inflation will be contained: economy-wide prices will rise but only to a level that allows holders of currency to receive the real interest rate (the rate to be gained on a safe investment elsewhere) through deflation of prices (appreciation of money) to the date on which the currency is expected to contract. Sumner 1993, 142. The qualification follows: if people are getting services from money, demand for it will increase at the outset. That is, people will not require a require a return from it, and prices will remain stable (or, to the extent that people forgo a return, money will remain more stable). Sumner 1993, 142.

[76] Both are time-sensitive, in ways that off-set one another. Discounting an asset against its future value means that an asset is worth the least far out from the time of use, and becomes progressively more valuable as that time approaches. See, e.g., Grubb, "Paper money,". Imputing value to an asset because it provides cash services during a certain period implies that the asset will be worth the most at the beginning of the period, when its capacity to enable trade is at a peak. As the period draws to a close, the premium fades because the asset is losing capacity to facilitate trades, which take time to find and arrange.

[77] Here, see sources cited at notes __ (all models above).

would hold because of its cash quality.[78] The point for present purposes is that money is a material matter. It entails resources represented by the obligation at stake, enhanced by cash services delivered because of its form. Each of those aspects flows from interventions in the real world – the tribute or taxing regimes put in place by a community and the rules that instill negotiability. The result, money, is far from neutral. "The market" that takes shape is, in turn, a function of a particular money. In many ways, the history that follows is the story of how money and "the market" have changed dramatically over time.

Money's working logic reveals another aspect of its materiality. Producing money involves a deal over matters of real value: people advance the time value of their own goods and labor in return for a stakeholder's peculiar ability to create money. The stakeholder's gains are substantive – creating money "pays" in the ability of that agent to use the resources advanced in exchange for a token. There is no sleight of hand. The stakeholder is granting in return a capacity, also a matter of substantive value, that no individuals engaged in only bipolar exchange can create. Neither can we categorize money as "neutral" in the sense that it is costless to produce or that its costs are spread without distributive effect. Rather, the process allocates expenses and profits across many parties, including the tax-paying public, those buying money for its cash services, and the stakeholder – who can be a small ruler, a sovereign state, or an agent like a bank licensed to multiply the public unit of account. The point here is that the terms of the

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[78] Issues raised by discounting turn on how people gauge the time of taxation relative to spending. Tokens that "expired" at a certain moment would invite discounting towards that moment. Most communities using money roll issue and retirement dates and allow any token to be used for any obligation. Those conditions reduce the discount that people attach to money. See, e.g., Grubb, "Paper money,". The same timing innovations reduce the swings in money's value that would occur as people gauged the amount of time that its cash services would last (although in contrast to the value that flows from its fiscal utility, the value of money that flows from its cash services would diminish not rise towards the retirement point). The size of the cash premium that people attach to money also depends on how much they value the cash services of money: if there is plenty of cash circulating, people will not attach a cash premium to money if more is issued. In that case, they will take money only at a discount, charging more for goods or services. Put another way, money will hold only its fiscal value and no cash premium. According to the models of money under these conditions, it will gain value (prices will fall) over time as money is retired by being taxed in. For these and other effects, see, e.g., ibid.; Calomiris, "Institutional Failure,".

deal matter. Money is a medium constructed publically with costs and profits that are material. "Making money" has been a profoundly important and deeply contested project over English history – and in countless other communities.

Contextualizing Money Creation

That project takes us back to the history. The English experience provided the stage for the alternative creation story; if that story captures the way money works, it should illuminate the drama we find. The drama starts with money creation and extends to the market that money makes.

Conditions in early Britain support the argument that money is fiscally engineered and produces cash services for individuals. Recall that Roman authorities structured their highly monetized economy on a fiscal base. Imperial spending sent Roman coin into circulation across the Empire; tax levies assured every user along the way that imperial units of account would remain in demand. In fact, contracts in Roman law carried only money damages; officials recognized no other medium as a mode of payment. At its height, the Roman code enforced the unit of account in purely "nominal" terms – the amount of silver in a coin mattered not at all relative to that coin's unit value, decreed at the center.[79] That practice did not deter individuals from exchange. According to a number of scholars, the strength of Roman assumptions that money was defined by the official unit and the extent of the imperial economy moved together.[80]

The "catastrophe" that followed Rome's withdrawal from Britain registered in the collapse of material exchange among inhabitants. Indeed, according to Simon Esmonde-Cleary, England was more completely devastated than other territories precisely because its economy was so intimately intertwined with the Roman fiscal machinery.[81] For the next two centuries, coin virtually ceased to function as money in Britain.[82] Despite a

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[79] "Nominalism," as such a rule is traditionally known, implies that the practice is formalistic; to the contrary, the unit decreed is established by the center to pay off the tax obligation. See infra, TAN __ [chapter 2].
[80] See supra TAN __ [chapter 2].
[81] Esmonde Cleary, *Ending*: 138-61.
[82] See supra TAN __ . In fact, the traces of money use that remained may have depended on organized taxing-and-spending. See Abdy, "After Patching," 84-86; cf Williams, "Coinage in Conversion-Period England," 159-60.

heritage of moneyed exchange and residual coin, people lived of their own; we might imagine that when money arrived, they would attach a premium to the exchange it made possible. At the same time, the services of cash take more to reproduce, apparently, than the memory and even the example of surviving units; as far as we know, no media of exchange came gradually to the fore. According to scholars extrapolating from a scant record, political authority reached a low ebb; the territory was highly fragmented and rulers were weak.[83]

Reviewing the archaeological record, Chris Wickham argues that the initial "turning-point" in the "reconstruction of political power" in Anglo-Saxon lands occurred in the late 6th century. Burials showing off significant wealth appear and, in the 7th century, settlements become slightly more structured. Political organization was still simple but early in the century, small Anglo-Saxon kingdoms doubled in size and became more hierarchically organized. Tribute owed to rulers remained varied and modest but was well-entrenched. It included rent, dues, military service, and other forms of obligation. Chris Loveluck finds evidence of richer economic activity including imported ceramics, tools, glass, and metal ware, along the coast in the end of the 7th century; signs of productive exchange and importing increase in the early decades of the 8th century, especially in the East Anglia, Kent, and Wessex.[84]

Locally made coins, gold shillings often called thrymsas, appear in the midst of those developments, sometime near beginning of 7th century.[85] They may not, of course, have been the money first invented by Anglo-Saxon communities after the earlier

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[83] See, e.g., Wickham, *The Early Middle Ages*: 313-14, 20-25, 32-33; Carlo M. Cipolla, *Money, Prices, and Civilization in the Mediterranean World, Fifth to Seventhteenth Century* (New York: Gordian Press, 1967); cf. Naismith, *Money and Power*: 18-19; Metcalf, *Thrymsas and Sceattas*, 1: 12-13. Wales and Ireland have different patterns of development, beyond the reach of this narrative. See, e.g., Wickham, *The Early Middle Ages*: 351-54.

[84] Wickham, *The Early Middle Ages*: 315, 20-23, 40-42; Christopher Loveluck, "A High-status Anglo-Saxon Settlement at Flixborough, Lincolnshire," *Antiquities* LXXII(1998): [158-60]; see also Williams, "Coinage in Conversion-Period England," 153-54 (noting emergence of Anglo-Saxon kingdoms amidst continuous trading across North Sea).

[85] Williams, "Coinage in Conversion-Period England," 157, 88. "Thrymsas," an Old English variant on the Roman coin tremissis, may be a label mistakenly adopted in the scholarship for the coin that contemporaries would have called shillings. See Metcalf, *Thrymsas and Sceattas*, 1: 29 n.4.

collapse. The unit of account used by a community need not be coin. If the material referent of money is an obligation owed and the enhancing attribute of money is its cash quality, paper can function as well as coin to provide money. The Anglo-Saxon kings may have experimented with money made of wood, revitalized old Roman tokens, or tried other ways of recording credits, leaving no permanent record of a contemporary money. Those media could have circulated among selective circles, elites for example, creating cultures that would later be lumped under "gift-exchange" because the "money" made did not fit our more monochromatic expectation about what "money" is. In fact, the money's working logic invites many variations that blur the overdrawn dichotomy between "money" and "gift" economies.[86]

Having said that, coin solves an important problem that bedevils many monetary initiatives. To the extent that money circulates physically – and that property that has been essential in many worlds, including our own -- the tokens representing the unit of account must be both durable and difficult to imitate. Otherwise, they will be either lost or multiplied without a stakeholder's permission, disturbing the balance between outflow and inflow, supply and demand, tax credit and tax redemption that creates stable value. (While counterfeiting is the far more famous threat, note that the loss of tokens because of their fragility or decay would be just as destructive.) One solution is a token made of material that is rare, imperishable, and takes skill to work. Given such commodity content, a stakeholder need only control means of producing tokens and the system can function.[87] In fact, a stakeholder with enough authority could impose the costs of production on those obligated to it: the stakeholder need only ask for at least some of its

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[86] The idea of a "gift economy" strongly differentiated from a money economy is powerfully articulated by a series of authors. See, e.g.., Polanyi, *Great Transformation*; P. Grierson, *The Origins of Money* (London: Althone, 1977). For an insightful argument that the polarity has been overdrawn, see Naismith, *Money and Power*: 259-67. Chris Loveluck similarly points out the complexities that "exchange" might entail, although he identifies coin more narrowly with "profit-" or "market-" led transactions. Loveluck, Dobney, and Barrett, "Trade and Exchange -- The Settlement and the Wider World," 124-29.

[87] The argument developed here means that the unit of account is not an abstraction. In money systems that employ commodity content, the unit of account takes a material shape; it is not an arithmetic formality. For supporting evidence that the unit of account, in early coin systems, was identified with certain anchoring coins, see infra, note __ [note attached to discussion on unit of account, next section].

tribute in tokens made from the commodity and available from centralized sources at a fee – the sources will issue commodity tokens in return for commodity supplied by individuals, less the fee taken in tokens.

Coins – tokens made of precious metal – are the obvious example. Objects made of silver or gold hold a place among the wealthy in many communities as ornaments, medallions, or fancy plate. They may be offered in reward or recognition, a role that the stakeholder could institutionalize at the center. Adding the requirement that elite members contribute at least some kinds of tribute in precious metal, refined and regularized by craftsmen directed by the king, would follow comfortably. The system would then produce the coin required to pay some obligations in money. In addition, the craftsmen could provide additional coin to those willing to buy it for their own purposes with bullion. Made according to this logic, the political character of money is not at odds with its "commercial" use. To the contrary, the money-making practice of the later Anglo-Saxon world looks very like this proto-type – money was a royal monopoly that supplied money for both public and private use. Its antecedents in the 7th century are unavoidably speculative – but the evidence is suggestive nonetheless.[88]

Gold shillings appear throughout eastern and southern England early in the century. Initially found mixed with Merovingian imports, they imitated those coins as well as Roman examples in design. Gradually growing in proportion to foreign coin, they turn up across a region so broad to indicate that they were used for more than external trade. Their numbers, small compared to those on the Continent, were nevertheless significant: using die evidence, Gareth Williams estimates that there may have been tens of thousands extant at their peak.[89]

Gold shillings played a varied set of roles. Pierced, adorned with loops, or mounted, many clearly functioned as jewelry. They may have been used as amulets and turn up in graves regularly. They provided treasure for foreign trade, as well as high status items for gifts and displays of prestige. On the more utilitarian side, they acted as

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[88] See infra TAN __ for discussion of later Anglo-Saxon minting.

[89] Williams, "Coinage in Conversion-Period England," 145-46, 53-54, 69-73, 85, 88; see also Richard Abdy and Gareth Williams, "A Catalogue of Hoards and Single Finds from the British Isles c . AD 410-675," in *Coinage and History in the North Sea World, c. 500-1250* (Leiden: Koninklijke Brill NV, 2006), []; Gannon, *Iconography*: 10-12.

standard-setting weights.[90] Many coins carry Christian imagery; they appear during England's conversion period and may have been considered important religious symbols. Motifs evocative of Roman authority are even more pervasive. Throughout the medieval period, political officials and aspiring rulers sought to identify their administrations with Rome's power and prestige. Indeed, Christian and Roman heritage were highly fused during this period. Williams argues that the Church promoted notions of "Romanized Christian kingship," including the issue of coins and the introduction of written law as signs of godly rule.[91]

Whether early gold coin circulated as money has been more contested, in part because early finds came to light in hoards or graves; those contexts suggest they had a ritual role or served to display status.[92] Moreover, gold coin would have been far too valuable to change hands in everyday exchange, nor are the surviving coins nearly numerous enough to suggest that reach. On the other hand, more single coins have recently been unearthed along with multiples in productive sites, consistent with their use in exchange. Coins found outside of burial sites are far less likely to have been made into jewelry. Ornamental uses also decline over the 7th century.[93] Many gold coins are highly standardized in content, an oddity if their aesthetics were of overriding importance. After mid-century, "pale gold" debased coin appears and some evidence indicates a drop in metal content that was sudden and consistent. While scholars disagree about whether gold coin traveled at face value, later communities would debase coin in times of metal scarcity to make it go further as a unit of account.[94]

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[90] Williams, "Coinage in Conversion-Period England," 161-73, 87-88, 90; Metcalf, *Thrymsas and Sceattas*, 1: 37.

[91] Gannon, *Iconography*: 10-12; Williams, "Coinage in Conversion-Period England," 186-88. On the profound importance of religious and political imagery to early medieval authorities, see also Naismith, *Money and Power*: 39-41, 45-72.

[92] See, e.g., Philip Grierson, "The Purpose of the Sutton Hoo Coins," *Antiquity* 44(1970); see also Philip Grierson et al., *Medieval European coinage: with a catalogue of the coins in the Fitzwilliam Museum, Cambridge* (Cambridge [Cambridgeshire] ; New York: Cambridge University Press, 1986). 159-64.

[93] See Abdy and Williams, "Hoards and Single Finds," ; Williams, "Coinage in Conversion-Period England," 169, 88-89.

[94] See Metcalf, *Thrymsas and Sceattas*, 1: 39-40, 42-43; Williams, "Coinage in Conversion-Period England," 172-73, 82 90. Even under regimes enforcing nominal coin values, gold coin was often passed by weight, given its enormous value.

The circumstances fit the stakeholder story neatly, although some scholars assert that private moneyers established shillings according to a Merogovian example.[95] Anglo-Saxon rulers could have copied continental coin, perhaps even making the first issues for ceremonial or special use, or for foreign trade. The exchange of coin as a sign of political loyalty or reward would follow easily, especially in cultures where tribute and gift-giving was varied but well-established. In the late Roman empire, gifts of gold from aristocrats to the emperor on his succession had been "regularized" as a tax.[96] Similarly, gold coin in England could serve as a mode of tribute within certain circles or for particular purposes, depending on how it was institutionalized. It would thus link kings and elites, and travel between elites to make larger transfers of wealth – nothing about the royal production of coin or its basis in a regime of obligation is at odds with the "commercial" use of coin, or its value in private exchange. To the contrary, the public engineering of money structures it sufficiently to create demand by individuals.

Royally directed production would explain the uniformity of the coins.[97] Systemic debasement would fit with the model as well, carried out as rulers struggled to keep up a practice of coin's use. The signals that gold coin was closely associated with political authority – the Roman and Christian iconography characteristic of the coins - make perfect sense under these conditions. Gold coin would be an assertion made by increasingly ambitious rulers that had royal uses and symbolic importance, as well as practical value for individuals.[98] Suitably, fines stated in shillings appear in

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[95] Scholars have traditionally argued that coin use in Merogovian Gaul was privately engineered, although some scholars are skeptical of that conclusion. Compare Grierson et al., *Medieval Europeal Coinage*: 158-59 and Naismith, *Money and Power*: 37-41, 142-`45 with Metcalf, *Thrymsas and Sceattas*, 1: 24-25 and Williams, "Coinage in Conversion-Period England," .

[96] See Esmonde Cleary, *Ending*: 8-9.

[97] As Michael Metcalf points out, there were large issues of certain coin types. Metcalf, *Thrymsas and Sceattas*, 1: 12.

[98] Wickham argues that such exchange as did occur in early Anglo-Saxon areas was embedded in political relationships. Although he may not have money in mind, that character would comport with the anchor of money in political authority. See Wickham, *The Early Middle Ages*: 808-10.

Aethelberht's law-code of 600; the usage identifies the king's authority with the unit, whether or not people paid off penalties in other material.[99]

A similar dynamic, writ more broadly, accords with the great surge in silver coinage that followed. "Sceattas," or early silver pennies ("paeningas" or "denarii") appear near the end of the 7th century, just as gold coin fades and signs of richer economic activity increase.[100] These early coins are abundant; Rory Naismith speculates that sceattas may have been "the most plentiful currency" that medieval England had until the late 12th century.[101] Exchange remained a largely elite activity in 8th century England, one centered on domestic, even subregional, networks; foreign trade did not drive economy activity as much as "the ultimate motor . . . landed and fiscal demand."[102] Silver coin, still a high value for subsistence populations, would nevertheless reach many more transactions than gold by those somewhat better off and would have been within the reach of more communities to produce.[103] If gold coin traveled in too circumscribed a way to create much monetary currency, sceattas could penetrate further, both in exchange as a currency between rulers and those obligated to them.[104]

In fact, sceattas come with a great variety of imprints, a golden age for iconography on coins. To some scholars, that plethora and the fact that many coins bear moneyer's names seems evidence that making money was a private industry.[105] The same evidence, however, suggests just as easily that many communities had started making coin. As Michael Metcalf puts it, "one kingdom – one coinage," explains the pattern in most of England. Along the coast, he adds that "one wic – one coin" might be

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[99] See Williams, "Coinage in Conversion-Period England," 189; Wickham, *The Early Middle Ages*: 343.
[100] Naismith, *Money and Power*: 264.
[101] Ibid., 5.. As of 2010, more than 2,800 single coins had been found. Ibid..
[102] Wickham, *The Early Middle Ages*: 818, 22-23.
[103] For the continued link between elite wealth and exchange, especially domestic trade, see ibid., 706-07, 822-24..
[104] Rory Naismith contrasts Rome's tax-driven money with the more varied drivers of early Anglo-Saxon coin. A centrally anchored money can be fueled by many types of obligations, including fees, rents, dues, and tolls, as well as taxes. See Naismith, *Money and Power*: 37-39.
[105] Ibid., 37-41.; Grierson et al., *Medieval Europeal Coinage*: 158-59. The assmption draws on the traditional interpretation of Merovingian coinage in Gaul as privately produced. See supra TAN __ .

a better description, referring to the coast towns where exchange was particularly extensive. But those towns too were within royal authority, as were moneyers. Minting, Metcalf notes, took place in "kingdoms closely governed."[106] The large-scale production of some dies and of sceattas themselves supports that conclusion.[107] Much of the imagery on coins remains royal: there are diademed busts, helmeted figures, and heraldic animals including lions and hawks.[108] Religious iconography continues important, a vocabulary essential to kingship in the period.[109]

In the second half of the 8th century, a series of Anglo-Saxon kings made their authority over coinage unambiguous. They struck their names and titles into coin, successfully set standards for weight and fineness, and supervised moneyers within their kingdoms; some successfully patrolled for foreign coin, requiring it to be reminted.[110] Dues and required contributions became heavier throughout the period. There is evidence that in-kind payment of rents began to be converted in part into cash payments during the 8th century, a trend that would continue in later centuries, and the late 8th century Mercian king, Offa, extended tribute obligations to virtually "everyone" in his territory.[111]

Coin use, first efflorescent when the early silver sceattas began circulating, bloomed again from the late 790s through the 830s, contemporaneous with the

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[106] Metcalf, *Thrymsas and Sceattas*, 1: 3, 12-13, 16-17, 22-24; see also Gannon, *Iconography*: 15-17. For the greater exchange complexity in eastern England, see Wickham, *The Early Middle Ages*: 342, 809-10.
[107] Metcalf, *Thrymsas and Sceattas*, 1: 12.
[108] See Gannon, *Iconography*; Metcalf, *Thrymsas and Sceattas*, 1: 13-14.
[109] See Gannon, *Iconography*: 31-33, 185-91; Naismith, *Money and Power*: 57-62. Ecclesiastical coinage probably also occurred at the sufferance of the king; bishops and other clerics had less political autonomy in England than across the channel. See Wickham, *The Early Middle Ages*: 346; Metcalf, *Thrymsas and Sceattas*, 1: 14. Having said that, the Church like other collectives had the structural position to create a medium.
[110] See Naismith, *Money and Power*: 96-112, 26, 28-40, 68-80, 293-95. Offa was particularly effective on that score. See ibid., 206-09.; Metcalf, *Thrymsas and Sceattas*, 1: 16-17. Fifty percent of well-preserved coins from the period 757-865 weigh within .10 gram of others from the same phase of minting, as judged by Naismith. Naismith, *Money and Power*: 170. Occasionally, the uniformity of coin did break down; Offa's move to a heavier penny in about 792 or 793 occurred after an era of debasement and imposed a new order that was maintained for most of the 9th century. Ibid., 96, 101-06..
[111] Wickham, *The Early Middle Ages*: 349-51, 78; Naismith, *Money and Power*: 23-30, 36, 277-80.

strengthening of royal control over the coinage. Single finds of coins minted between 757 and 865 now number more than 1000.[112] Many such coins have come to light in the country, beyond the towns or sites that would have been home to merchants, clergy, and aristocrats, and are most common to the east and south. Those were areas of more extensive domestic and foreign trade, although not the territories in which the early Anglo-Saxon kings spent most of their time. [113] Native coins predominate increasingly over Carolingian imports but appear promiscuously across local boundaries; Rory Naismith suggests that English kings generally observed a monetary "entente cordiale" between themselves. As he concludes, the patterns and "sheer volume" of coinage reveal "vibrant minting and monetary circulation" across the period, including middle- and long-distance travel.[114] Judging by evidence from the next century, these new pennies probably traveled at face value; coins of slightly different silver content turns up together as if all remained in circulation.[115]

The monetary reforms of these kings coincided with the further consolidation of English territory in the kingdoms of Mercia, East Anglia, Kent, Northumbria, and Wessex; Wickham calls the 8th century an era of "political recomposition," and notes the expanding ability of kings to mobilize resources.[116] The broad thin pennies issued from the end of the century on in the southern kingdoms would, with Carolingian pennies that may have been their model, become the norm for European coinage across the medieval

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[112]Naismith, *Money and Power*: 209, 31-32. There are over 1300 if foreign coins are included, and more than 4000 if the period is extended to back to pick up the early surge in silver sceattas. Ibid., 199-202, 55.. Early silver sceattas had faded in use during during a period of debasement in the mid- 8th century. Ibid., 5-6, 96..

[113] Ibid., 203-10, 29.. Northumbrian use of coin also flourished, although it remained more geographically restricted. It was increasingly debased in the mid-9th century, a pattern that may have allowed it effectively to reach smaller transactions. See ibid., 210, 47-48.. For more discussion of such dynamics, see infra TAN __ [chapters 3 and 4]

[114] Ibid., 209, 18, 52, 58, 78.. On agricultural development during the period, see also Loveluck, Dobney, and Barrett, "Trade and Exchange -- The Settlement and the Wider World," .

[115] Naismith, *Money and Power*: 165-66, 71; see also ibid., 157. (noting difficulty for lay users to judge metallic content).

[116] Wickham, *The Early Middle Ages*: 314, 44; see also Naismith, *Money and Power*: 6-12. Kent would be dominated by Mercia by the third quarter of the 8th century. Ibid., 19..

era.[117] The moment is a good one to consider exactly how each of money's capacities connected people to political authority and how that connection configured the market.

Making the Market

The new narrative explains how each of the capacities associated with money – its function as a unit of account, mode of payment, and medium of exchange – is, at base, a mode of governing. The unit of account, first, arises when a stakeholder takes something that is not fungible – the in-kind service owed by individuals or families -- and marks it with a token. That measure is easily (and often explicitly) assumed in other accounts, given the difficulty of explaining how people engaged only in bipolar exchanges can create a term for value that is shared among them all. But the accomplishment, made intelligible once we admit the agency of a stakeholder common to them, is critical. The capacity of an object to furnish homogeneous comparative terms – a unit of account -- to evaluate other objects supplies the terms for "counting" value, i.e., price. That unit is used both as the basis of accounting systems, and as the metric into which circulating coin or currency can be converted.

In early medieval England, rulers chose to make the basic unit of account – the penny -- out of silver.[118] That choice gave silver a price. For example, a weighed pound of silver of specified fineness might be exchanged for 230 pennies at the mint – the "mint price" received when an individual took that amount of bullion in to be coined. The mint made perhaps 242 pennies out of the bullion, kept 12 for the moneyer and the king, and

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[117] For the mutual influence between England and France, including the surprising evidence that Northumbrian reform may have pre-dated all the rest, see Naismith, *Money and Power*: 86-100.

[118] The accounting system may use different multiples than the coins in circulation. It is not a free-floating metric, however. It is instead *anchored* by the unit of account to an existing coinage or money. That is, the unit of account is a term into which all modes of payment can be converted. In response, groups in a community may strategize methods of accounting in order to escape from an official unit of account to another anchoring coin that they prefer. For example, creditors in some medieval polities tried to keep accounts linked to a large coin that the government was unlikely to depreciate. For an explanation of the unit of account as an anchor, as well as strategies to evade that anchor, see, e.g., Cipolla, *Money, Prices, and Civilization*: 51; Allen Evans, "Some Coinage Systems of the Fourteenth Century," *Journal of Economic and Business History*, no. 3 (1931).

returned the remainder. The "price" of silver was tied, by definition, to the value of the tribute or tax obligation: pennies made by the mint were the tokens used by the king to pay for resources advanced to him. At the time the tax was due, each penny carried some part of the value that extinguishing the tax obligation held for people.[119] But without violence to that reality, observers could assume that coin expressed the value of the silver it contained: at tax time, the arrangement itself identified the value that a penny held for extinguishing the fiscal obligation with the value of silver. In fact, we might say that the silver coin had become a material proxy for the tax obligation. (Money therefore also furnished a "store of value," another function often attributed to money.) It was not, however, the content of coin that gave it a priced value, but the system that made coin into money.

Second, tokens clearly acted as a "mode of payment" to the government when they were returned in lieu of tribute or other obligation. As we saw above, the tokens would invite use as a mode of payment in private deals as well. Individuals could anticipate that everyone recognized their value, given the demand for them established by the stakeholder. Perhaps even more importantly, a stakeholder would predictably support exchanges between individuals that occurred for money. The stakeholder, now acting recognizably as a government, would enforce agreements made in those tokens because, in a very real sense, those agreements were its agreements. The agreements opened arteries down which money could flow, channels that branched into smaller and smaller capillaries that took money to the edges of a community. Insofar as a government wants to expand its own ability to mobilize resources with money, it will open and maintain those conduits -- the more official support for tokens, the greater their capacity to function.

The Roman law's directive that damages be stated in the official unit of account functioned to exactly this end.[120] The earliest records of English law are obscure, but the reach of authorities in courts and church counsels increased during the 8th century, as they

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[119] If we imagine that a person's annual quota of tribute was marked, when advanced for an early reward, with 230 pennies, then 230 pennies would exonerate him or her from the quota otherwise due at the time of reckoning. (Such an amount would be absurdly high in early medieval England, but in an example it keeps the arithmetic easy.)

[120] See supra TAN __.

became more involved in resolving disputes.[121] When the common law took shape in the 12th century, it adopted the approach taken by Roman law: it required debt obligations to be settled in pennies defined as the unit of account. In fact, the English common law in most instances excluded other modes of payment – including by weights of silver.[122]

Official support for monetary transactions – the judicial enforcement of the mode of payment – is also crucial in another aspect. It is literally the place where a society determines what resources can be bought and sold -- and what resources cannot change hands for money. That determination shapes a society. The restrictions on sale of land in feudal orders, the slave-owning structures of the American South, the conditions under which waged labor can be hired are only the most obvious examples; we can add the debates that attach to selling children, political votes, sex, or kidneys. Like the "price" provided by the unit of account, determining what constitutes a "commodity" that can be bought and sold for money is essential to the market.

Finally, money's engineering informs its activity as a medium, including the way that value comes to be hammered out on the market. The center, as a creditor common to everyone, can ensure that the tokens are transferable between people by taking them back from anyone's hand. That latitude does not automatically attach to credit instruments. On their own, IOUs are promises personal to the one who makes them and hold only as far as that person honors them, generally to an immediate acquaintance, with all the caveats and defenses that flow from that relationship.[123] At times, a group might accept the IOUs of each other, but the network extends no further than the relations of trust run between participants. Credit that circulates more broadly depends, like money, on the enforcement power of a governing agent; it proliferated in England only in the early modern period. Until then, coin was the only medium endorsed as fully negotiable between strangers in England.[124] Money was, in other words, the *original* circulating credit. It remains the only currency that travels without any conditionality: insofar as authorities take back tokens indiscriminately (i.e., from the person to whom they spent

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[121] Wickham, *The Early Middle Ages*: 344.
[122] See infra TAN __ [ch 2, discussion of English nominalism].
[123] Rogers, *Law of Bills and Notes*: [].
[124] See J. K. Horsefield, "The Beginnings of Paper Money in England," *Journal of European Economic History* 117, no. 32 (1977).

the token or anyone else), those officials confirm that the tokens can operate successfully as a "medium of exchange."

That process creates a new interaction over material value within the community. Money can exist beside and between other norms of organization, within a subcircle close to the center, or across a wider circumference. But money has an organizing effect on the people who use it. A stakeholder likely spends money only on a certain kind resources – soldiers and military suppliers for example. (The word "soldiers" comes, in fact, from the Roman "solidus," the gold coin in which they were paid.) The ability to mobilize resources selectively was, after all, the great advantage that spending narrowly (and taking more broadly) offered. Entering the community through certain hands, money becomes available in corresponding ways; people who are close enough bid for it with the resources they have and according to what the endowed want; they pass it on in turn as others offer goods to them. Trades occur that could never happen before. But the results trace back to the spending priorities of the government, the way money flowed in, the resources each family held relative to what others wanted, and all the spoken and unspoken rules about who could deal with whom, what could be claimed and what could not be claimed, what could be traded and what was outside of trading.

The process shakes the items traded into particular relationships of value. Eventually, those relationships produce prices for goods and other resources in terms of pennies, the units of account. The pennies, as they are spent, traded, and taxed, ultimately create a set of equivalences: 5 pennies = a sword, 5 pennies = two cows. But there is nothing essential about the sword and the cows and their equivalence. To the contrary, they are interchangeable only in the world created by this community's activity with tokens. Only there, with a market that is a function of all the contingencies that contributed to it, is a sword = 5 pennies = two cows. In fact, if the money and the way it is made evaporate, no one will give two cows for a sword, except by happenstance. That is, there is no "real" equivalence between the sword and the cows "revealed" by money. A sword does not equate to the cows in value except through the intervention of the monetary engineering that made the token into a unit, mode of payment, and medium between a set of participants in the particular circumstances of that engineering.

Indeed, once money circulates, it will reshape even the old relations of barter. Trades made without money will take place in the shadow of the moneyed economy; the tokens moving resources toward the center have redefined what each resource is worth between people. Even trades made purely on credit – ongoing relations reciprocal enough to operate indefinitely without at token changing hands – will be rebalanced in the moneyed world.

Money's penetrating quality owes to a last characteristic, one that draws on its capacity as a unit of account, mode of payment, and medium of exchange all together. Once we have a working money, it can be expanded beyond its fiscal core. In fact, English societies from the early medieval period through the modern era have engineered ways to supplement the amount of money created directly by the government's spending and taxing. If the money supply were limited to that publicly injected flow, it would be both spare and erratic. That would be especially true in the early world, where sovereigns spent scantly for civil purposes but mobilized resources suddenly and steeply for military ends, withdrawing money afterwards. The arrangement would leave unsatisfied a huge appetite for money in which to make deals.[125] By contrast, monetary systems can be structured to produce money to answer people's demand for an instrument that provides cash services. Once that engineering is in place, people can expand the money supply by their own action for their own use. That capacity would explain the patterns of money found in 8th century England, where royal authority over money increased but coin pooled with particular depth in areas of private exchange.

The way the English supplemented money produced for the king's use is clear by the 10th century, and scholars have speculated that something similar dates to the beginning of England's silver penny.[126] When English sovereigns established minting on

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[125] N. J. Mayhew, "Population, Money Supply, and the Velocity of Circulation in England, 1300-1700," *Economic History Review* 48, no. 2 (1995). Another way to understand that "appetite" is as private demand for liquidity that would otherwise affect prices, driving them down. When governments contrived ways to augment the money created by fiscal activity, they were responding to demand for liquidity by expanding the money stock rather than requiring deflation.

[126] Metcalf, *Thrymsas and Sceattas*, 1: 14-16. Naismith appears to agree that the early Anglo-Saxon kings probably controlled the minting of sceattas and early pennies, at least

demand (later called "free minting"), they set up a way to sell coin into circulation. Along the way, minting on demand also allowed the government to distribute to the population the cost of making tokens.

The full story lies ahead, but the basic idea is that people could bring bullion to royal mints and receive coin in return. The government made money by charging for the service. As for individuals, they had to buy as much coin as necessary to cover their taxes.[127] At the same time, individuals could buy more coin when they wanted the cash quality it offered. Their demand was registered in price: when prices fell, coin was worth more and it was increasingly worthwhile to bring bullion to the mint. Despite the fact that authorities took a cut of the silver brought in, the deal was profitable. In the example above, the mint made 242 pennies from a pound of silver and returned 230 to the person who had come to the mint, keeping the remainder as the public charge.[128] Although the individual received back less in terms of silver, he received it back in the form of coin. Coin, as we have seen, was worth more than silver bullion insofar as coin carried cash value. People would buy it as long as that was true.

The technique tied the value of the tax obligation to the price of the commodity set by center in terms of tokens: the tribute cost a certain amount of raw commodity or a bit less raw commodity in token form to satisfy. (The tokens were normally worth more than the raw commodity, given the cash services they offered. In effect, they furnished the "price" of the larger amount of raw commodity.) An approach that identifies a unit of account with content priced in that way creates a channel for the expansion of money according to private demand. It allows individuals who want the cash services of money to purchase units of account by putting up the raw material to make money, while protecting sovereign from any harm, since that limited commodity, once fashioned into money, is identified with money's tax value. People will do that so long as the resources

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to the extent of charging a flat fee or taking a proportion or moneyers' profits depending on output. See Naismith, *Money and Power*: 42-45.

[127] More precisely, in order to get the amount they needed, most people would trade resources with those individuals, mostly merchants, who bought coin from the mint with bullion. That group had access to silver bullion and was likely the only group with the capacity to make finer calculation about silver content.

[128] For this proportion and others characteristic of the minting system in place after the 12th century, see infra TAN __ . [chapter 2].

they can command with that, new, money are worth the cost to them. That will be true as long as prices in coin are low enough that those resources are worth more to them than the raw commodity, used for other purposes.

The desire of people for coin in early Anglo-Saxon society did not turn on any comparison they made between prices in coin and a "world price" for silver. Models of commodity money usually offer that anachronism as they imagine a reference point for coin's value. They begin with current prices in pennies (penny/good), and assume that people would know as well the amount of silver in a penny (ounces/penny).[129] That information (pennies/good given a certain number of ounces/penny) produces a hypothetical price in terms of ounces of silver/good. Under those conditions, the price offered by a mint to make a coin becomes a matter that can be chosen by people who are comparing the alternative of using silver to buy goods. They will take in their bullion to get coin when prices for goods in coin are less than prices for goods in ounces of silver.[130]

The structure of explanation invites the familiar intuition: just as the world price in a commodity serves as a reference point in the explanation, it furnished a reference point in the creation of coin. The possibility of comparison assumes, that is, the presence

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[129] A user would know the number of ounces of silver/penny if he or she knew the total number of pennies made from a pound of silver bullion. Assuming the12-ounce commonly used in the early medieval period and a constant fineness, a penny would hold 12 oz/ 242 pennies (the sum of the mint price and the mint charge, also known as the mint equivalent), or about .05 oz/penny. In fact, it is not clear that the mints shared the mint equivalent with people. See infra TAN ___.

[130] See, e.g, Sargent and Velde, *Big Problem of Small Change*: 9-12, and TAN __ [discussion supra re ideal commodity money]. To continue the example above, if one penny bought more of a good than .05 ounces of silver (assumedly because everyone found it easier to use and therefore attributed a cash premium to coin), it would be advantageous to have coin rather than the same amount of silver in uncoined form. More precisely, given that English medieval mints charged for their services, if prices for coin were sufficiently low that 230 pennies bought more than 12 ounces of silver, or one penny bought more than .052 oz of silver, people would go to the mint. Once those pennies were minted, they would remain in circulation unless prices rose sufficiently that people would rather have the .05 oz of silver they contained. At that point (leaving aside costs of melting), coin would be melted because, despite the sunk costs in producing it, people would rather have raw silver in it. That is, the charge for minting created a small gap between the minting point (if prices are at or under, people mint) and the melting point (if prices are above, people melt).

of a commodity already furnishing cash qualities to a community. But that assumption conflicts with the dry conditions that existed by definition before money's creation; it imagines the very capacity that it seeks to explain. Nor does it pass a reality check. As far as the histories of the pre-monetary English world indicate, there was *no market* for goods in terms of silver, "measured in ounces of silver per good."[131] That is, there was no "price" in a medium of ounces of silver – certainly not for consumption goods. The comparison between prices in coin and prices in raw silver for goods on the domestic market is an abstract deduction (given prices for goods in pennies and amount of silver per penny), paired with projection (prices in silver for goods). It does not indicate that the items would actually be traded. It cannot, therefore, do the equilibrating work assigned to it.[132]

Rather than holding value according to the modern imagination of commodity money, pennies offered a cash premium compared to the indigenous value of silver bullion. Those coming to the mint knew how many coins were given in return for a pound of bullion. If prices were sufficiently low in coin that the quantity of coins received (i.e., the mint price) would be more useful than the raw bullion, people would come to have their bullion converted to coin. That is, as long as coins carried the qualities that gave them purchasing power, people would buy them in preference to holding bullion. Although it is less clear, people may also have known the "mint equivalent," or the sum total of coins made from a pound of silver. As above, that information gave them the silver bullion content of each penny. If prices ever rose so much (i.e., coins lost so much of their value as cash) that people would rather have the

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[131] To the contrary, when medieval users concluded that their coin was worth more as silver than as coin, they would melt out (or otherwise find a way to value) the silver in coin and use that metal for purposes other than domestic exchange – most notably, export. Note that the term "world price" has an ironic accuracy. In fact, it was in foreign trade that coin – generally coin of high denomination – would be used at its intrinsic weight, i.e., in ounces of silver/good. In addition, silver was often exported and recoined in countries where it could buy more by count. Once coined, it would, of course, be acting *also as money* in that foreign world. If silver were more highly valued there compared to in England, however, the exporter could make a profit by coining it and using it abroad. See Redish, *Bimetallism*: 28-34.

[132] For more about how the medieval English government actually induced people to bring bullion to the mint, see infra TAN ___ [chapter 3].

silver that was in them to use for other purposes, then people would begin to melt their coins.[133] In this sequence, we can understand why people bought coin in response to the cues that prices give them. Moreover, bullion becomes a marker of value, one that was related to the amount of metal in coin but not one that previously conducted a shadow world of exchange or produced prices in silver.

Selling people money for their own use benefited both the government and individuals. It allowed the money supply to expand as people demanded more money, avoiding the painful deflation that would otherwise occur if people spread the use of money across more transactions.[134] In addition, when people had the option of buying coin, their decisions tended to maintain prices between a certain range. People went to the mint as long as it was worth their while to get money (as long as coin had so much value because of its cash quality that, even given the charge for minting, it was worth more than silver bullion). They would not continue going to the mint after that point. Indeed, if prices rose beyond the level at which coin held only the asset value of silver, people would melt or export coin, depressing the stock of money and sending prices down again. Along the way, people paid the government its costs for minting, producing the coins that the government would collect when it taxed and spent in turn. Allowing people to supplement the money supply, then, both tended to stabilize prices and paid for coin.

We could put the logic another way, one that returns us to the creation story of money as a constructed medium. Medieval minting tied money creation to a fiscal backbone, while allowing it to expand in response to the demand for cash. When people bought money from the mint, they put up the material value in silver that was identified with the tax obligation. That becomes clear when we consider that a stakeholder owed 230 pennies would be willing to take, instead, a pound of silver – the material for making the coins due, plus the cost of minting. People who bought extra coin were simply

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[133] The melting point would be a price at which people, given the number of coins required to buy a good, would rather have the silver for some other use. For more, see supra note __ .

[134] As a mode of redressing demand, deflation assumes a unit of account that is divisible, not a realistic condition in early monetary systems. For the relationship between money stock and demand that would produce deflation, see infra TAN __ [footnote re equation of exchange].

converting their silver into taxable form in order to use it along the way. Their action, like the agency provided by the government, configured the market.

That brings us back in closing to look at money and the market defined by later Anglo-Saxon rulers. We left the story during the late 8th and early 9th century period of political recomposition in England. From the mid-9th century on, that process was refracted through conflict with the Danes; West Saxons from King Alfred's line would eventually consolidate control, expanding their authority over money as they did so.[135] Edgar's monetary reform, taken in 973, established a uniform currency across England; just as coinage on the Continent was fragmenting, the English put in place a system remarkable for its reach and sophistication.[136]

Reconstructing the patterns left behind, historians believe that the "renovatio monetae" was a system that very effectively created money and raised revenue. The two were clearly linked; the late Anglo-Saxon monarchs imposed taxes, gelds, and other payments and required that those payments be made in coin acquired from mints they controlled. Periodically, officials changed the type of coin that circulated; those owing public debts apparently had to pay in the new coin.[137] The requirement forced people to the mints on a regular basis. On each occasion, sovereigns imposed a fee for minting. They also reaped revenue, conveniently in coined form, each time.[138]

That system allowed English officials to raise the geld that bought off Viking forces, as well as the revenue that went to more "domestic" uses. The *Anglo-Saxon Chronicles* may well exaggerate how heavy the toll on English wealth was, but there is no doubt that thousands of coins went north to buy peace, as well as to mercenary

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[135] Ian Stewart, "The English and Norman Mints, c. 600-1158," in *A New History of the Royal Mint*, ed. C. E. Challis (Cambridge, UK: Cambridge University Press, 1992), 13-14; Naismith, *Money and Power*: 155, 233-34, 95.

[136] J. L. Bolton, *Money in the Medieval English Economy: 973-1489* (Manchester: Manchester University Press, 2012). 88-89.

[137] Ibid., 94.; Stewart, "English and Norman Mints," 59. In 1178, the author of an Exchequer treatise, the *Dialogus de Scaccario*, remarked that people from certain counties had at times been allowed to pay their dues with coin of appropriate weight and fineness from any mint, since they had no moneyer of their own. The comment suggests that individuals were usually obliged to pay with the coin of their local moneyer. See generally Stewart, Challis, *A New History of the Royal Mint*: 55-59.

[138] See generally Bolton, *Money in the Medieval English Economy*: 87-99; Stewart, "English and Norman Mints," 55-56.

troops.[139] Extractions continued at a heavy rate under the early Normans.[140] In rough correspondence, recoinages became more and more frequent over time; more than a decade passed before Edgar (959-975) renewed his money, while only a few years separated the coin types of later rulers.[141] Changing the design of coin made it easy to confirm that people had returned to the mint for new money. Most of the hoards hidden on Anglo-Saxon territory in the late tenth and early 11th centuries contain coins from only one minting; the remaining hoards include only a few pennies from an earlier type. Remintings must generally have wiped out all the coins of a previous series, reaching almost all of the money in circulation.[142] Individuals would have gone to the mints much less often, had they needed only to replace money because it was worn down or damaged.[143] For reasons that are not clear, coins also varied in weight: the earliest coins

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[139] The hoard evidence from Scandanavia for the period 979 to 1035, some 60-70,000 English pennies, dwarfs the coins recovered from English hoards from 973 to 1158, only about 52,000. Bolton, *Money in the Medieval English Economy*: 61-62. Early estimates emphasized that heavy taxation drew huge amounts of silver, earned from the wool industry, into the mints, an accomplishment that in turn brought Vikings as bees to honey. See e.g., P. H. Sawyer, "The Wealth of England in the Eleventh Century," *Transactions of the Royal Historical Society* 15(1965): 160-64. J. L. Bolton argues that taxation and production was lighter; the Vikings came not because England was so wealthy but because its wealth was so conveniently packaged. See Bolton, *Money in the Medieval English Economy*: 91-92; see also M.K. Lawson, "Danegeld and Heregeld Once More," *Economic History Review* 105(1990); J. B. Gillingham, "Chronicles and Coins as Evidence for Levels of Tribute and Taxation in the Late 10th and Early 11th-Century England," *Economic History Review* 105(1990). Either interpretation testifies to the effective operation of the system.

[140] Bolton 91-91.

[141] Some rulers renewed their money every two or three years, others recoined every six or eight years. The coins are marked by varied designs, including several "Hand of Providence" images, and more than 20 different versions of a cross engraved with the letters CRUX. Over 150 years, Anglo-Saxon and early Norman rulers changed the design of their coinage at least 53 times. Stewart, in Challis, *A New History of the Royal Mint*: 49-55; Spufford, *Money and its Use*.

[142] Stewart, in Challis, *A New History of the Royal Mint*: 50-58; Spufford, *Money and its Use*: 94. Bolton agrees that, at least through 1036, moneyers completely melted down their earlier pieces and produced a new and distinctive coin. Bolton, *Money in the Medieval English Economy*: 94.

[143] Stewart in Challis, *A New History of the Royal Mint*: 55. In a cache dating to the 15th century when that criterion prevailed, a full quarter of the coins were more than a century old. Spufford, *Money and its Use*: 93 n.2.

of each type were heavier and got lighter over time.[144] Despite that difference, most scholars believe that late Anglo-Saxon coin traveled at face value.[145] The fiscal system was more than robust enough to ensure demand for the king's coin and the proliferation of mints that facilitated recoinages would have made money accessible to those who wanted to buy it for their own use.[146] By the time of Edward the Confessor (1042-1066), a system much like the system of minting on demand described above licensed moneyers to produce coin after paying a fee to the sovereign.[147]

As the coin came in, the king levied a charge for minting. Spufford estimates that royal profits amounted to 25% of the metal minted on each occasion, a rate suggesting strong centralized authority.[148] In turn, the tax revenue and profits reaped helped finance

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[144] Scholars have long debated whether the weight fluctuations were designed, through their effect depreciating the currency's value, to stimulate English exports. See R. H. M Dolley and D. M. Metcalf, "The Reform of the English Coinage under Eadgar," in *Anglo-Saxon Coins: Studies Presented to Sir Frank Stenton on the Occasion of his 80th Birthday*, ed. R. H. M. Dolley (London: 1961). The current trend is to explain much of the variation as regional discrepancies. See Bolton, *Money in the Medieval English Economy*: 97; H. Bertil A. Petersson, *Anglo-Saxon Currency, King Edgar's Reform to the Norman Conquest*, Bibliotheca historica Lundensis 22 (Lund,: Gleerup, 1969). 101.

[145] Stewart, "English and Norman Mints," 50-58; Spufford, *Money and its Use*: 94; Petersson, *Anglo-Saxon Currency*: 101. Bolton is more agnostic. See Bolton, *Money in the Medieval English Economy*: 92, 94, 97.

[146] Mints proliferated in the last quarter of the tenth century, when they increased almost three fold (from 25 to 70 mints) to blanket the English countryside south of York and east of Chester. Their accessibility made the frequent recoinages possible, although larger mints produced the lion's share of the coinage. Bolton, *Money in the Medieval English Economy*: 94-95.

[147] Ibid., 90-91..

[148] Spufford, *Money and its Use*: 93-94; Petersson, *Anglo-Saxon Currency*: 100-01; see also generally, Nightingale, "King's Profit." Stewart is less specific about the rate of profit, although he assumes that the Anglo-Saxon system of shifting weights functioned to produce revenues. The charge may have been imposed directly on minters at first, and later shifted to a levy placed on boroughs. See Stewart, "English and Norman Mints," 55-56, 58-59. For the strong centralized control of the Anglo-Saxons, see Patrick Wormald, *The Making of English Law: King Alfred to the Twelfth Century*, 2 vols., vol. 1: Legislation and its Limits (Oxford: Blackwell Publishers Ltd, 2001); Nightingale, "King's Profit," 61-63, 70-71, in Nightingale, ed., 2007; Thomas N. Bisson, *Conservation of coinage: monetary exploitation and its restraint in France, Catalonia, and Aragon (c.A.D.1000-c.1225)* (Oxford: Clarendon Press, 1979). 6; Spufford, *Money and its Use*: 92-94; Stewart, "English and Norman Mints," 49, 68-69; see also James Campbell, "Observations on English Government from the Tenth to the Twelfth

that rule. Officials supported by the indigenous money organized the space they controlled to allow trade, defense, and local order. Mints were concentrated in urban spaces, associated with commercial activity but also administrative and military purposes. Markets grew up there and in the ecclesiastical or political centers sometimes called "productive sites," developing as well if less profusely in the countryside to allow informal as well as informal exchange.[149] Their study would take us beyond the bounds of this history; it would, however, be closely connected to money.

The law codes of the 9th and 10th centuries make the ambition of the early Anglo-Saxon kings to control trades in money clear, as well as their responsibility for those trades. Both – ambition and responsibility – were at play. There is a tendency in modern commentary, even commentary on the early medieval period, to draw clear lines between commerce and political activity and to put money and moneyed exchange on the commercial side.[150] The stakeholder story reminds us, however, that public creation and use of money are profoundly important in the constitution of many communities. For the late Anglo-Saxon rulers, a realm justly ordered was an elemental imperative. That imperative included the safe-guarding of people and the policing of their relations. Here gather the kings' efforts, including by expenditure of silver coin, to consolidate and defend their realm. Offa's dyke, a military fortification in northwest England, may have been underwritten by royal pennies as well as impressed labor. The military initiatives of later kings, their use of mercenary troops most obviously, surely were.[151]

The imperative of a justly ordered realm extended also to structuring private exchange: the making of markets in money. A provision in the law code of I Edward (c. 900) established that "no one shall buy [and sell] except in market towns." The Grately

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Century," *Transactions of the Royal Historical Society* 25(1975)(suggesting roots of Anglo-Saxon centralized control in Carolignian influence).

[149] Naismith, *Money and Power*: 32-36, 131-32, 282; Loveluck, Dobney, and Barrett, "Trade and Exchange -- The Settlement and the Wider World," ; see also infra TAN __.

[150] A number of histories assume that, for example, that the medieval sovereign's interest in monied exchange was driven primarily by interest in the profits that could be extracted from minting, tolls, or other fees. See, e.g., Michael F. Hendy, "From Public to Private: The Western Barbarian Coinages as a Mirror of the Disintegration of Late Roman State Structures," in *Viator* (1988); Naismith, *Money and Power*: 32-36, 279.

[151] Spufford, *Money and its Use*: 90-91; Bolton, *Money in the Medieval English Economy*: 91.

Code (c. 925-930) made it clear that large deals had to be transacted within the view of authorities, while a series of clauses subjected purchases involving cattle to intricate oversight. Those, notes Elina Screen, were a "flashpoint" for dispute within a society that valued them so highly. As she notes, the laws regarding money cohere "within an aspiration toward control both of people and property and the prevention of disputes."[152] The common law would soon articulate the rightful role of money, delineating the categories of its operation and defining its value as the sovereign coin of the realm.[153]

Anglo-Saxon law and its monetary order were, in other words, growing up together. A code of V Ethelred from 1008 suggests the affinity contemporaries saw between law, money, public goods, and the market:

> And the promotion of public security and the improvement of the coinage in every part of the country, and the repairing of fortresses and of bridges throughout the country on every side, and also the duties of military service, shall always be diligently attended to, whenever the need arised, in accordance with the orders given.[154]

Another provision from the same sovereign tied money and the market to law even more simply. "Let us earnestly take thought for the promotion of public security and the improvement of the coinage," it read. "Public security shall be promoted in such a way as shall be best for the householder and worst for the thief."[155]

That commitment promoted money as a means of exchange more broadly among lay people. It prompted landowners who owed gelds to privilege the money that could pay them; by the 9th century, rent was probably a significant use for coin in rural areas.[156] That demand made money more valuable to their tenants; peasants as well as wealthier English began to hold pennies. Larger mints in regular production along with smaller mints more sporadically active spread money across the countryside. While liquidity remained low by modern standards, it seeped into the deals made by many more people in England and, for that matter, in Scandinavia. Even when it was not present, it

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[152] Screen, "Law and Numismatics," 157.
[153] See infra TAN __ [chapters 2, 3, and 7].
[154] V Aethelred, sec. 1 (1008), as reprinted in Appendix, Screen, "Law and Numismatics," 169.
[155] VI Aethelred, secs 31-31 (1008), as reprinted in Appendix, ibid..
[156] Naismith, *Money and Power*: 278.

furnished the terms of value and the measure for credit. The Domesday Book, William I's survey of England's population and resources, "presents a picture of a society full of money, and money payments."[157]

Reconsidering its creation story suggests that "making money" is a constitutional project. In medieval England, silver and gold were the beginning, not the end of the story. They furnished the material upon which the medieval world would act out a debate over how to package, pay, and circulate value. That effort distributed resources. It shaped nation building. It brought England into competition with other sovereigns. It configured new ways to represent counted value – public debt, circulating credit, and elaborate hierarchies of credit are all part of the story, as are markets, banks, securities, and financial crises. The way the English made money shaped and reshaped the way people conceptualized it and the way they conducted monetary policy. As a matter engineered on a fiscal frame, enhanced by the unique cash quality it offered, and expanded for a charge, money has never been neutral. The story continues in the next chapter.

Abdy, Richard. "After Patching: Imported and Recycled Coinage in Fifth- and Sixth-Century Britain." In *Coinage and History in the North Sea World, C. Ad 500-1250*, edited by Barrie Cook and Gareth Williams. 75-98. Leiden, the Netherlands: Koninklijki Brill NV, 2006.

Abdy, Richard, and Gareth Williams. "A Catalogue of Hoards and Single Finds from the British Isles C . Ad 410-675." In *Coinage and History in the North Sea World, C. 500-1250*. Leiden: Koninklijke Brill NV, 2006.

Agnew, Jean-Christophe. *Worlds Apart: The Market and the Theater in Anglo-American Thought, 1550-1750*. Cambridge: Cambridge University Press, 1986.

Appadurai, Arjun. *The Social Life of Tthings: Commodities in Cultural Perspective*. Cambridge: Cambridge University Press, 1986.

Appleby, Joyce Oldham. *Economic Thought and Ideology in Seventeenth-Century England*. Los Angeles: Figueroa Press, 2004.

———. *Inheriting the Revolution: The First Generation of Americans*. Cambridge, MA: Belknap Press of Harvard University Press, 2000.

———. "Locke, Liberalism and the Natural Law of Money." *Past and Present* no. 71 (1976).

Bagehot, Walter. *Lombard Street, a Description of the Money Market*. New York: John Wiley and Sons, Inc., 1873, 1999.

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[157] N. J. Mayhew, *Sterling, The History of a Currency* (New York: Wiley, 2000). 3; Spufford, *Money and its Use*: 86-90.

Bernholz, Peter. "Inflation, Monetary Regime and the Financial Asset Theory of Money." In *Kyklos*, 5: Blackwell Publishing Limited, 1988.

Bisson, Thomas N. *Conservation of Coinage: Monetary Exploitation and Its Restraint in France, Catalonia, and Aragon (C.A.D.1000-C.1225)*. Oxford: Clarendon Press, 1979.

Blaug, Mark. *Economic Theory in Retrospect*. 5th ed. ed. Cambridge: Cambridge University Press, 1996.

Blyth, Mark. *Great Transformations: Economic Ideas and Institutional Change in the Twentieth Century*. New York: Cambridge University Press, 2002.

Bolton, J. L. *Money in the Medieval English Economy: 973-1489*. Manchester: Manchester University Press, 2012.

Bordo, Michael D. *The Gold Standard and Related Regimes: Collected Essays*. Studies in Macroeconomic History. Cambridge, UK: Cambridge University Press, 1999.

Brantlinger, Patrick. *Fictions of State: Culture and Credit in Britain, 1694-1994*. Ithaca: Cornell University Press, 1996.

Braudel, Fernand. *Afterthoughts on Material Civilization and Capitalism*. Johns Hopkins Symposia in Comparative History. Baltimore: Johns Hopkins University Press, 1979.

Breen, T. H. *The Marketplace of Revolution: How Consumer Politics Shaped American Independence*. Oxford: Oxford University Press, 2004.

Callon, Michel, ed. *The Laws of the Markets*, Sociological Review Monograph. Oxford, UK: Blackwell Publishers/The Sociological Review, 1998.

Calomiris, Charles W. "Institutional Failure, Monetary Scarcity, and the Depreciation of the Continental." *Journal of Economic History* 48, no. 1 (Mar. 1988): 47-68.

Cameron, Rondo. "England, 1750-1844." Chap. 2 In *Banking in the Early Stages of Industrialization*, edited by Rondo Cameron. 15-59. New York: Oxford University Press, 1967.

Cameron, Rondo E., Olga Crisp, Patrick Hugh T., and Richard Tilly. *Banking in the Early Stages of Industrialization; a Study in Comparative Economic History*. New York: Oxford University Press, 1967.

Campbell, James. "Observations on English Government from the Tenth to the Twelfth Century." *Transactions of the Royal Historical Society* 25 (1975): 39-54.

Challis, C. E. *A New History of the Royal Mint*. Cambridge, UK: Cambridge University Press, 1992.

Cipolla, Carlo M. *Money, Prices, and Civilization in the Mediterranean World, Fifth to Seventhteenth Century*. New York: Gordian Press, 1967.

Comaroff, Joan, and John L. Comaroff. "Millenial Capitalism: First Thoughts on a Second Coming." *Public Culture* 12, no. 20 (Spring, 2000 2000): 291-343.

Dark, Kenneth. *Britain and the End of the Roman Empire*. Stroud, 2000.

Desan, Christine. *Making Money: Coin, Bank Currency, and the Coming of Capitalism*. Oxford: Oxford University Press, 2014.

Dolley, R. H. M, and D. M. Metcalf. "The Reform of the English Coinage under Eadgar." In *Anglo-Saxon Coins: Studies Presented to Sir Frank Stenton on the Occasion of His 80th Birthday*, edited by R. H. M. Dolley. London, 1961.

Dowd, Kevin. "The Invisible Hand the the Evolution of the Monetary System." In *What Is Money?,* edited by John Smithin London: Routledge, 2000.

Esmonde Cleary, A. S. *The Ending of Roman Britain*. London: B.T. Batsford, 1989.
Evans, Allen. "Some Coinage Systems of the Fourteenth Century." *Journal of Economic and Business History*, no. 3 (1931).
Felt, Joseph B. *An Historical Account of Massachusetts Currency Microform*. 1839.
Ferguson, Niall. *The Cash Nexus: Money and Power in the Modern World, 1700-2000*. New York: Basic Books, 2001.
Friedman, Milton. *The Optimum Quantity of Money: And Other Essays*. Chicago: Aldine Publishing Company, 1969.
Frug, Gerald E. *City Making: Building Communities without Building Walls*. Princeton, NJ: Princeton University Press, 1999.
Gannon, Anna. *The Iconography of Early Anglo-Saxon Coinage*. Oxford: Oxford University Press, 2003.
Gillingham, J. B. "Chronicles and Coins as Evidence for Levels of Tribute and Taxation in the Late 10th and Early 11th-Century England." *Economic History Review* 105 (1990): 939-50.
Goody, Esther N. *From Craft to Industry: The Ethnography of Proto-Industrial Cloth Production*. Cambridge: Cambridge University Press, 1982.
Gorton, Gary. *Slapped by the Invisible Hand: The Panic of 2007*. Financial Management Association Survey and Synthesis Series. New York: Oxford University Press, 2010.
Greenspan, Alan. "Monetary Policy Report to Congress." 2005.
Grierson, P. *The Origins of Money*. London: Althone, 1977.
Grierson, Philip. "The Purpose of the Sutton Hoo Coins." *Antiquity* 44 (1970): 14-18.
Grierson, Philip, M. A. S. Blackburn, Lucia Travaini, and Museum Fitzwilliam. *Medieval European Coinage: With a Catalogue of the Coins in the Fitzwilliam Museum, Cambridge*. Cambridge [Cambridgeshire] ; New York: Cambridge University Press, 1986.
Grubb, Farley. "Is Paper Money Just Paper Money? Experimentation and Local Variation in the Fiat Monies Issued by the Colonial Governments of British North America, 1690-1775." In *NBER Working Papers*. Washington, D.C.: National Bureau of Economic Research, 2012.
———. "Specie Scarcity and Efficient Barter: The Problem of Maintaining an Outside Money Supply in British Colonial America." In *Re-Theorizing Liquidity*. Cambridge, MA, 2011.
Hartz, Louis. *The Liberal Tradition in America; an Interpretation of American Political Thought since the Revolution*. 1st ed. New York: Harcourt Brace, 1955.
Hendy, Michael F. "From Public to Private: The Western Barbarian Coinages as a Mirror of the Disintegration of Late Roman State Structures." In *Viator*. 29-78, 1988.
Henretta, James A. *The Origins of American Capitalism: Collected Essays*. Boston: Northeastern University Press, 1991.
Hill, David. "The Construction of Offa's Dyke." *The Antiquaries Journal* 65 (1985): 140-42.
Horsefield, J. K. "The Beginnings of Paper Money in England." *Journal of European Economic History* 117, no. 32 (1977): 36.
Hume, David. *Of Money*.

Hurst, James Willard. *Law and the Conditions of Freedom in the Nineteenth-Century United States*. Madison,: University of Wisconsin Press, 1967.
Ingham, Geoffrey. "On the Underdevelopment of the 'Sociology of Money'." *Acta Sociologica* 41, no. 1 (1998): 3-18.
Jones, Charles I. *Introduction to Economic Growth*. New York: Norton, 1998.
Jones, Robert A. "The Origin and Development of Media of Exchange." *The Journal of Political Economy* 84, no. 4 (1976): 757-75.
Katzner, Donald W. "Unity of Subject Matter in the Teaching of Intermediate Microeconomic Theory." *The Journal of Economic Education* 22, no. 2 (1991): 154-63.
Kent, J. P. C. . "From Roman Britain to Saxon England ". In *Anglo-Saxon Coins*, edited by R. H. M. Dolley. London: Methuen & Co., Ltd, 1961.
Keynes, John Maynard. *The General Theory of Employment, Interest, and Money*. New York: Harcourt Brace, 1936.
———. "A Self-Adjusting Economic System?" *The New Republic*, Feb. 20 1935, 35-37.
Kreitner, Roy. "The Jurisprudence of Global Money." *Theoretical Inquiries in Law* 11 (2010): 177.
Kulikoff, Allan. *The Agrarian Origins of American Capitalism*. Charlottesville: University Press of Virginia, 1992.
Lawson, M.K. . "Danegeld and Heregeld Once More." *Economic History Review* 105 (1990): 951-61.
Lerner, Abba P. "Functional Finance and the Federal Debt." In *Selected Economic Writings of Abba Lerner*. 1943.
Levine, Ross. "Financial Development and Economic Growth: Views and Agenda." *Journal of Economic Literature* 35, no. 2 (Jun. 1997): 688-726.
Lipietz, Alain. *The Enchanted World: Inflation, Credit and the World Crisis*. Translated by Ian Patterson. London: Verso, 1985.
Lipsey, Richard. *An Introduction to Positive Economics*. Weidenfeld and Nicolson, 1975.
Locke, John. "Further Considerations Concerning Raising the Value of Money." In *John Locke: Locke on Money*, 400-81. Oxford: Clarendon press, 1696.
Loveluck, Christopher. "A High-Status Anglo-Saxon Settlement at Flixborough, Lincolnshire." *Antiquities* LXXII (1998): 146-61.
Loveluck, Christopher, Keith Dobney, and James Barrett. "Trade and Exchange -- the Settlement and the Wider World." In *Rural Settlement, Lifestyles and Social Change in the Later First Millenium Ad: Anglo-Saxon Flxborough in Its Wider Context*. Excavations at Flixborough. Oxford, UK: Oxbow Books, 2007.
Macphail, Richard I, Henri Galinie, and Frans Verhaeghe. *Antiquities* 77, no. 296 (
Mankiw, N. Gregory. *Macroeconomics*. 4th ed. New York: Worth Publishers, 2000.
Marglin, Steve A. . *Raising Keynes: A 21st Century General Theory*. [2013].
Marx, Karl. *Capital: A Critique of Political Economy*. Pelican Marx Library. Harmondsworth, UK: Penguin Books, 1976.
———. *Economic and Philosophic Manuscripts of 1844*. New York: International Publishers, 1964.
Mayhew, N. J. "Population, Money Supply, and the Velocity of Circulation in England, 1300-1700." *Economic History Review* 48, no. 2 (May 1995): 238-57.
———. *Sterling, the History of a Currency*. New York: Wiley, 2000.

Mehrling, Perry. "Minsky and Modern Finance: The Case of Long Term Capital Management." *Journal of Portfolio Management* 26, no. 2 (2000): 81-88.

———. *The New Lombard Street: How the Fed Became the Dealer of Last Resort*. Princeton, N.J.: Princeton University Press, 2011.

Menger, Carl. *Principles of Economics*. Translated by James Dingwall and Berthold Frank Hoselitz. The Institute for Humane Studies Series in Economic Theory. New York: New York University Press, 1981.

Merrill, Michael. "The Anticapitalist Origins of the United States." *Fernand Braudel Review* 13 (1990): 465-97.

Metcalf, D. M. *Thrymsas and Sceattas in the Ashmolean Museum Oxford*. 3 vols. Vol. 1, London: Royal Numismatic Society and Ashmolean Museum, 1993.

Minsky, Hyman P. ""The Financial Instability Hypothesis"." *Working Paper No. 74* (May 1992 1992).

Mishkin, Frederic S. *The Economics of Money, Banking, and Financial Markets*. The Addison-Wesley Series in Economics. 9th ed. Boston: Addison-Wesley, 2010.

Moorhead, T. S. N. . "Roman Bronze Coinage in Sub-Roman and Early Anglo-Saxon England." In *Coinage and History in the North Sea World, C. Ad 500-1250*, edited by Barrie Cook and Gareth Williams. 99-109. Leiden, the Netherlands: Koninklijke Brill NV, 2006.

Muldrew, Craig. *The Economy of Obligation: The Culture of Credit and Social Relations in Early Modern England*. Early Modern History. New York: Macmillan, 1998.

———. "Interpreting the Market: The Ethics of Credit and Community Relations in Early Modern England." *Social History* 18, no. 2 (1993): 163-83.

Naismith, Rory. *Money and Power in Anglo-Saxon England: The Southern English Kingdoms 757-865*. Cambridge: Cambridge University Press, 2012.

Neal, Larry. *The Rise of Financial Capitalism: International Capital Markets in the Age of Reason*. Studies in Monetary and Financial History. Cambridge, UK: Cambridge University Press, 1990.

Nesvetailova, Anastasia. "The Crisis of Invented Money: Liquidity Illusion and the Global Credit Meltdown." *Theoretical Inquiries in Law* 11, no. 1 (2010): 125-45.

North, Douglass C., and Barry R. Weingast. "Constitutions and Commitment: The Evolution of Institutions Governing Public Choice in Seventeenth-Century England." *The Journal of Economic History* XLIX, no. 4 (Dec. 1989 1989): 803-32.

North, Douglass Cecil. *Structure and Change in Economic History*. 1st ed. New York: Norton, 1981.

Ostroy, Joseph M., and Ross M. Starr. "Money and the Decentralization of Exchange." *Econometrica* 42, no. 6 (1974): 1093-113.

Peacock, Mark S. "Accounting for Money: The Legal Presuppositions of Money and Accounting in Ancient Greece." *Business History* ([2013]).

Petersson, H. Bertil A. *Anglo-Saxon Currency, King Edgar's Reform to the Norman Conquest*. Bibliotheca Historica Lundensis 22. Lund,: Gleerup, 1969.

Polanyi, Karl. *The Great Transformation: The Political and Economic Origins of Our Time*. 2nd ed. Boston, MA: Beacon Press, 2001.

Radford, R. A. "The Economic Organisation of a P.O.W. Camp." *Economica* 12, no. 48 (Nov. 1945): 189-201.

Reddy, William M. *Money and Liberty in Modern Europe: A Critique of Historical Understanding*. Cambridge: Cambridge University Press, 1987.

Redish, Angela. "Anchors Aweigh: The Transition from Commodity Money to Fiat Money in Western Economies." *The Canadian Journal of Economics / Revue canadienne d'Economique* 26, no. 4 (Nov. 1993): 777-95.

———. *Bimetallism: An Economic and Historical Analysis*. Studies in Macroeconomic History Index. Cambridge, UK: Cambridge University Press, 2000.

Redish, Angela, and Warren E. Weber. "A Model of Commodity Money with Minting and Melting." *Federal Reserve Bank of Minneapolis* Research Dept. Staff Report 460 (2011).

Reece, R. . "Models of Continuity." *Oxford Journal of Archaeology* 8, no. 2 (1989): 231-36.

Ricardo, David. "On Foreign Trade." *The Works and Correspondence of David Ricardo* I, no. Chapter 7 (1817 [2005)).

Ricks, Morgan. "Preface and Introduction." In *A Monetary System Design*. 2013.

———. "Regulating Money Creation after the Crisis." *Harvard Business Law Review* 1 (2011).

Robertson. *Money*. Chicago: University of Chicago Press, [1922] 1959.

Rogers, James Steven. *The Early History of the Law of Bills and Notes: A Study of the Origins of Anglo-American Commercial Law*. Cambridge Studies in English Legal History Index. Cambridge: Cambridge University Press, 1995.

Rothenberg, Winifred Barr. *From Market-Places to a Market Economy: The Transformation of Rural Massachusetts, 1750-1850*. Chicago: University of Chicago Press, 1992.

Rothschild, Emma. *Economic Sentiments: Adam Smith, Condorcet, and the Enlightenment*. Cambridge, MA: Harvard University Press, 2001.

Sahlins, Marshall. *Stone Age Economics*. New York: Aldine de Gruyter, 1972.

Samuelson, Paul, and William D. Nordhaus. *Economics*. 9th ed. New York: McGraw-Hill, 1973.

Sandel, Michael. "Markets and Morals." Harvard Law School, 2010.

Sargent, Thomas J. "The Ends of Four Big Inflations." In *Conference on Inflation*. Washington, DC: National Bureau of Economic Research, 1981.

Sargent, Thomas J., and Francois R. Velde. *The Big Problem of Small Change*. The Princeton Economic History of the Western World Indexes. Princeton, NJ: Princeton University Press, 2002.

Sawyer, P. H. "The Wealth of England in the Eleventh Century." *Transactions of the Royal Historical Society* 15 (1965): 145-64.

Schumpeter, Joseph Alois. *History of Economic Analysis*. Edited by Elizabeth Boody Schumpeter New York: Oxford University Press, 1994.

Screen, Ellen. "Anglo-Saxon Law and Numismatics: A Reassessment in the Light of Patrick Wormald's *the Making of English Law*." *British Numismatics Journal* 77 (2007): 148-72.

Sellers, Charles Grier. *The Market Revolution: Jacksonian America, 1815-1846*. New York: Oxford University Press, 1991.

Shell, Marc. *The Economy of Literature*. Baltimore: Johns Hopkins University Press, 1978.

Simmel, Georg. *The Philosophy of Money*. Edited by David Frisby. 3rd enl. ed. London: Routledge, 2004.

Smith, Adam. "Chapter Ii (Continuation): On Money Considered as a Particular Branch of the General Stock of the Society, or of the Expense of Maintaining the National Capital ". *An Inquiry into the Nature and Causes of The Wealth of Nations* (1937 [1776]).

———. *The Essential Adam Smith*. Edited by Robert L. Heilbroner and Laurence J. Malone Oxford: Oxford University Press, 1986.

Smith, Bruce D. "American Colonial Monetary Regimes: The Failure of the Quantity Theory and Some Evidence of an Alternate View." *Canadian Journal of Economics* 18, no. 3 (1985): 531-65.

———. "Money and Inflation in Colonial Massachusetts." In *Quarterly Review (Federal Reserve Bank of Minneapolis)*, 3: Federal Reserve Bank of Minneapolis, 2002.

Spufford, Peter. *Money and Its Use in Medieval Europe*. Cambridge, UK: Cambridge University Press, 1988.

Stewart, Ian. "The English and Norman Mints, C. 600-1158." In *A New History of the Royal Mint*, edited by C. E. Challis. 1-82. Cambridge, UK: Cambridge University Press, 1992.

Sumner, Scott. "Colonial Currency and the Quantity Theory of Money: A Critique of Smith's Interpretation." *Journal of Economic History* 53, no. 1 (Mar. 1993): 139-45.

Thayer, Theodore. "The Land-Bank System in the American Colonies." *The Journal of Economic History* 13, no. 2 (1953): 145-59.

Tobin, James. "Money." In *The New Palgrave Dictionary of Economics,* edited by Steven N. Durlauf and Lawrence E. Blume, 2008.

Valenze, Deborah M. *The Social Life of Money in the English Past*. Cambridge, UK: Cambridge University Press, 2006.

Wallace, N. "Whither Monetary Economics." *International Economic Review* (Nov. 2001).

Weber, Max. *The Protestant Ethic and the Spirit of Capitalism*. Translated by Talcott Parsons. London: Routledege Classics, 2001 [1930]. 1930.

Wickham, Chris. *Framing the Early Middle Ages: Europe and the Mediterranean, 400-800*. Oxford: Oxford University Press, 2005.

Williams, Gareth. "The Circulation and Function of Coinage in Conversion-Period England, C. Ad 580-675." In *Coinage and History in the North Sea World, C. Ad 500-1250*, edited by Barrie Cook and Gareth Williams. Leiden, the Netherlands: Koninklijki Brill NV, 2006.

Wood, Gordon S. *The Radicalism of the American Revolution*. 1st Vintage Books ed. New York: Vintage Books, 1993.

Wormald, Patrick. *The Making of English Law: King Alfred to the Twelfth Century*. 2 vols. Vol. 1: Legislation and its Limits, Oxford: Blackwell Publishers Ltd, 2001.

Wray, L. Randall. "Alternative Approaches to Money." *Theoretical Inquiries in Law* 11, no. 1 (January 2010 2010): 29-49.

———. *Understanding Modern Money: The Key to Full Employment and Price Stability*. Cheltenham, UK: Edward Elgar, 1998.

Wray, Randall. "Modern Money." In *What Is Money?*, edited by John Smithin. 42-66. New York: Routledge, 2000.

Zelizer, Viviana A. Rotman. *The Social Meaning of Money*. Princeton: Princeton University Press, 1997.