The Magic of Money and Banking

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Recommended Citation

The Magic of Money and Banking, in The Law and Harry Potter (Jeffrey E. Thomas and Franklin G. Snyder, eds., Carolina Academic Press 2010)

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The Magic of Money and Banking

Eric J. Gouvin

“I don’t know how the Muggles manage without magic.”
—Rubeus Hagrid

As a fan of the Harry Potter books and a banking law professor, I wish J.K. Rowling had provided more details about the banking system in the wizarding world. Although banking may strike the casual reader as something quite mundane, it is, in fact, one of the few magical things Muggles can do. Banking magical? Yes, indeed—banking is magic because bankers create money out of thin air.

Money is the sort of useful device that is so much a part of our life that we often forget that it had to be invented. Humans did not always have money, but it is hard to imagine a modern Muggle economy functioning without it. The economy of the wizarding world uses money as well, but there are striking differences between the magical and Muggle worlds on this point. We can only speculate on why these differences exist, but a brief history of money and banking as they evolved among the Muggles may give us some insight on the role played by money and banking in the world of Harry Potter.

A Quick History of Money

Going back to first principles, it is worth noting that primitive economies can exist without money. In these simple economic systems trade occurs through barter. Barter economies suffer from a glaring problem, however, namely, a transaction will not take place unless Party A wants what Party B has to trade.

1. Sorcerer’s Stone 67.
2. For an accessible account of the development of money and banking in the Muggle world, see John Kenneth Galbraith, Money: From Whence it Came, Where it Went (1975).
and \( B \) wants what \( A \) has to trade. Economists call this dilemma the "double coincidence of wants" problem. Of course, things could get more complex, such as where \( B \) might trade with \( A \) because \( B \) wants something that \( C \) has and he knows that \( C \) wants what \( A \) has to trade, but this can get awfully complicated awfully fast.

Money solves the double coincidence of wants problem by providing a medium of exchange that trading parties will accept. Traders don’t want money because it is money, but rather because money can be used in trade with other people to obtain other things of value. The system is ingenious and cultures around the world have invented it independently since the dawn of civilization. The range of items that have been used as money is truly impressive, from bags of salt to nails to huge round stones. Today, of course, the government by law can designate pieces of paper as money merely by specifying that, say, Federal Reserve notes are "legal tender for all debts public and private." Historically, however, the first "money" most societies developed derived from a commodity that had wide utility, such as beaver pelts or cattle or, during the colonial period in the United States, tobacco.

People would be willing to take commodities as money because even if they could not convince another trading partner to take the commodity as money, at least they were in possession of a useful commodity. In order for such commodity money to be truly useful, however, it needed to meet three criteria: it had to be (1) durable, (2) not subject to oversupply, and (3) something that people would willingly trade for. Commodities that are not durable do not make good money because we expect money to serve as a store of value as well as a medium of exchange (i.e., accumulating money should be a convenient way to stockpile wealth). Commodities that are subject to oversupply are unacceptable as money because they will be devalued if there is an increase in the supply of the commodity/money in the market place. Economists call such an oversupply of money "inflation." Inflation is usually viewed as a bad thing because useful money also needs to serve as a standard of value, that is, as a common language people in the market can use to communicate how much things are worth. If the value of the money changes too much, it cannot fulfill that function. Finally, in order to be useful as a medium of exchange, the commodity that serves as money must be something traders can and will accept. So, for example, although cattle have served as money in some rural societies, using cows as money never caught on in urban environments where storage of cattle was a serious problem for active traders.

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Clearly, some commodities meet these requirements better than others. Given the practical constraints on the kinds of commodities that will be useful as money, economies the world over and throughout history have reached the same conclusion: precious metals make for good money. Gold, silver, and copper are durable, not subject to wild changes in supply, and in a physical form that traders can accept. In addition, these metals have some intrinsic value as commodities. The Muggle world and the magic world seem to have arrived at the same conclusion regarding money, as the coins in the wizarding world are the gold Galleon, the silver Sickle, and the bronze Knut. We do not know many details about the coins of the wizarding world although we do know that the Knuts are small and bronze and five of them are the appropriate payment for an owl delivery, while the Galleons are quite large, judging from a comment by a Muggle in *The Goblet of Fire* that some people tried to pay him with gold coins the “size of hubcaps.”

**Shortcomings of Precious Metals as Money**

**Making Change**

While precious metals have much to recommend them as money, they also have some serious drawbacks. For starters, it can be hard to make change. If an item costs less than the face amount of a coin there must be sufficient smaller denomination coins available to make up the difference. In wizarding money, making change must be a nightmare. A Galleon is worth seventeen Sickle, and a Sickle is, in turn, worth 29 Knuts, so a Galleon is worth 493 Knuts. It is a peculiar system, far more so than the old English system in which a shilling was worth 12 pence and a pound was worth twenty shillings (240 pence).

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4. *Goblet of Fire* 77. As far as the value of the wizard coins, that is a topic beyond the scope of this essay. Others have written about the topic with great cleverness and insight, identifying discrepancies in the various works of Ms. Rowling and formulating both a “high value” and a “low value” theory for the coins. I recommend the discussion in Wikipedia under the heading “Harry Potter Universe—Economy”: http://en.wikipedia.org/wiki/Money_in_Harry_Potter#Economy (last visited July 28, 2008).

5. In the history of coinage some coins were designed to be broken apart to make change, the most famous example of which being the Spanish reales, or “pieces of eight,” which were scored into eight pie-shaped sections which could be bitten off to make change (i.e., “two bits” was a quarter of the coin and remains our term for a quarter of a dollar).

6. For Americans and the rest of the western world where coinage based on the decimal system is the norm, the old English approach to coinage is odd. The pence was originally the basic unit, though at times in British history coins in denominations of half a penny (ha’penny) and quarter of a penny (farthing) were issued. Although twelve pence made a
Nevertheless, Hagrid tells Harry that wizard coinage is "easy enough" to understand. Even if that is the case, it is hard for a Muggle to understand why the wizards don't coin additional denominations analogous to our nickels, dimes, and quarters to make change easier. At the same time, the lack of five, ten, or twenty Galleon coins means larger purchases must be made by exchanging huge numbers of coins, which is also very inconvenient.

Bank notes would serve well in the role of making change, but the magical world does not seem to have any paper money. We do not know for sure why, but there could be some legal basis for this. It could be that their money system is limited by a legal rule prohibiting the use of paper money altogether. Some modern supporters of the gold standard earnestly argue that the United States is bound by just such a legal regime. Those folks argue that the U.S. Constitution only gives Congress the power to "coin Money," not to print paper money. They believe that prohibiting paper money is an important check on the power of the government since a money supply based on paper currency can be manipulated by the government relatively easily by "running the printing presses," while money based on gold is not as easily manipulable. Perhaps the wizards reached a similar conclusion and decided that restricting their money to coinage was one way to impose some discipline on government spending.

On the other hand, because the wizards seem comfortable with commodity money, it might be an awkward transition to have money made out of paper, which has very little intrinsic value as a commodity. It takes a leap of faith to use paper as money. One could imagine an economy where people would be reluctant to give up the weighty, substantive, reality of gold, silver, and bronze for the flimsy, ephemeral, abstraction of a piece of paper. Perhaps


8. The argument against paper money offered by the extreme wing of gold-standard supporters goes something like this: the United States Constitution gives Congress the power to "coin Money, regulate the Value thereof, and of foreign Coin, and fix the Standard of Weights and Measures," U.S. Const. art. I, §8, but conspicuously leaves off the power to print paper money. Because the drafters considered, but rejected, the idea of specifically granting to Congress the power to "emit bills of credit" (i.e., small denomination notes against the full faith and credit of the country), some argue that the Congress is prohibited from issuing paper money. Others point out, however, that the Constitution, while not providing an explicit grant of authority, also carries no explicit prohibition on the printing of paper money and that the necessary and proper clause could be employed to justify its issuance.
a combination of law and cultural norms in the wizarding world militates against the use of paper notes as money.

**Maintaining Integrity in the Supply of Coins**

Regardless of the reason for a money system based solely on coins made of precious metals, the existence of such a system presents some serious systemic challenges. Perhaps most obviously, coins are susceptible to counterfeiting and adulteration, such as by shaving or sweating. Someone needs to police the quality of the coin to make sure that good coin remains in circulation. If no authority keeps an eye on the coinage, a dynamic known as "Gresham's Law" will occur—the bad money (i.e., the debased or counterfeit coins) will drive out the good money (i.e., the unadulterated coinage). In other words, as the coinage becomes debased, people will tend to hoard authentic coins and pass along low quality coins to others. In modern Muggle economies, central banks controlled by the government play an important role in monitoring the quality of the money supply, but there is no evidence that the Ministry of Magic is involved in policing the money supply in the magical world.

Instead, the regulation of coinage seems to be in the hands of a private bank—Gringotts. This could be a case of successful privatization. In modern economies there are many examples of governments spinning off functions to private operators as a way to increase efficiency and reduce the size of government. Born in 1965, Ms. Rowling would have come of age politically during the high-water mark of privatization under Conservative U.K. Prime Ministers Margaret Thatcher and John Major. The important role played by Gringotts could be her literary tribute to privatization schemes. That is, it may very well be that the wizarding community decided it was a better policy choice to harness the private incentives of the Gringotts' goblins (widely reputed to be quite greedy) to run an efficient monetary system than it was to trust the bureaucrats at the Ministry of Magic to perform that task.

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9. Counterfeiting is the unauthorized production of coins, often of inferior quality, such as "gold" coins which are merely gold-plated. Shaving is a way for a money handler to debase the coins by nicking a little piece of the precious metal off of each coin that passes through his hands. Over the course of many transactions, the shavings add up to a valuable amount of gold dust. Similarly, sweating is a technique where several coins are placed in a leather bag and shaken vigorously so that flecks of gold are dislodged from the coins and retained in the bag. Again, over a large number of transactions, these small debase-ments could add up.

10. Bill Weasley explains that the goblins recognize they are better bankers than wiz-ards: "there is a belief among some goblins, and those at Gringotts are perhaps most prone
In theory, by aligning incentives correctly the government can design a privatization scheme that will result in a private party like Gringotts serving a socially beneficial function such as policing the money supply. If the Gringotts goblins had a profit incentive to safeguard the money supply, they might engage in that task with enthusiasm. In *The Order of the Phoenix* we learn that the Galleon coins bear a serial number identifying the goblin who minted it. It may very well be that a charm on the coins and this serial number provide a method of monitoring the supply of the coin. But why would the goblins care? Where is the payoff to them? The answer may lie in a concept called seigniorage.

By modern Muggle standards, entrusting the regulation of the money supply to a private bank would be quite unusual. Although Muggles certainly have private banks (and there is historical precedent for those banks issuing money), in most developed countries the government is in charge of managing the money supply through the operation of a central bank. The government has a stake in maintaining a stable and reliable money supply in order to ensure the smooth functioning of the economy and to facilitate the collection of taxes, which is why the British developed the Bank of England—the prototypical central bank—in 1694 and why the United States created the Federal Reserve System in 1913.11

More than that, however, governments tend to monopolize the making of money because, quite frankly, it is an easy way for the government to earn a profit. In other words, there is money to be made in making money. The economic windfall that results when new coins are issued is called "seigniorage." Seigniorage is the revenue a money-issuing authority realizes on the difference between the cost of producing the money and its face value when placed in circulation. This can be a significant revenue source for governments. Perhaps this is the private benefit that gives Gringotts the proper incentive to monitor the magical money supply.

Consider the special series of U.S. quarters minted since the late 1990s commemorating the fifty states. That coinage program was designed to appeal to collectors and many of those coins have been taken out of circulation.12 That

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12. The coins were so successful after the first year of the program that demand for quarters shot up by 50 percent. *See* Dean Croushore, *U.S. Coins: Forecasting Change*, Federal Reserve Bank of Philadelphia Q2 2003 Business Review, at 9 (2003), http://www.philadelphiafed.org/files/br/brq203dc.pdf. One might fairly assume that most if not all of that additional demand was due to collectors' interest in the coins.
is good economic news for the U.S. Treasury because it costs the mint less than five cents for each quarter it produces, so the government makes twenty cents whenever a bank "buys" a quarter at face value to put it into circulation. In the ordinary course of a coin's useful life the seigniorage gain is eventually eliminated years later when the government buys back the worn out coins from banks at face value and retires them. For coins which are taken out of circulation by collectors, however, the back end of the seigniorage deal never comes to pass. Based on the total number of state quarters issued since 1999, observers estimate that as of April 2005, the U.S. Treasury had earned about $5 billion in seigniorage from those coins.\textsuperscript{13}

So, to a banking policy wonk, one striking difference between the Muggle world and the wizarding world is that it appears that the seigniorage belongs to the goblins who run Gringotts and not to the government. In the Muggle world it is often said that money is power, and one may assume that is at least partly true in the wizarding world as well. If so, it would not be hard to imagine that the Ministry of Magic might want to grab the economic power back from the goblins and nationalize the bank (or re-nationalize it if it was indeed a case of privatization). Just such a move was hinted in a news story that ran in \textit{The Quibbler} under a cartoon captioned: \textit{How Far Will Fudge Go to Gain Gringotts?}\textsuperscript{14} The story alleged that Minister of Magic Cornelius Fudge desired to gain control of the bank and the goblin gold supplies therein and that he went as far as to have goblins murdered to attain that end. While stories in \textit{The Quibbler} are usually dismissed as fantastic, they often prove uncannily accurate.

In the wizarding world's political struggles it would seem almost inevitable that if one or the other of the wizard factions did not seek to take control of the bank, they would at least try to get the Goblins on their side. Indeed, in \textit{The Order of the Phoenix} Bill Weasley has used his position at Gringotts' London branch to gain intelligence regarding the political sympathies of the goblins. Of course, in the final book of the series, Gringotts appears to be deeply

\textsuperscript{13} That is, adding up the total production since 1999, about $6.25 billion dollars worth of quarters had been issued. Assuming $0.20 seigniorage on each quarter, that yields total seigniorage of about $5 billion. See \url{http://www.usmint.gov/about_the_mint/coin_production/index.cfm?flash=yes&action=production_figures&sqYear=2005} (last visited July 28, 2008) (providing production numbers for the state quarter series). Although it is unlikely that the government will keep the whole $5 billion of seigniorage gains forever, many of these coins are in the hands of collectors and will never be retired from the system. Coins usually stay in circulation for 30 years before they wear out and need to be taken out of circulation, so the government will have the benefit of the seigniorage gains for that period of time regardless of how many quarters are eventually retired.

\textsuperscript{14} \textit{Order of the Phoenix} 190.
involved in the wizards’ political struggles. In that book it appears that the Death Eaters and Voldemort gained control over Gringotts, even as the goblins try not to take sides during the political struggles. At one point in the book Ted Tonks asks two goblins: “where do you two fit in? I, er, had the impression the goblins were for You-Know-Who, on the whole. ‘You had a false impression,’ said the higher-voiced of the goblins. ‘We take no sides. This is a wizards’ war.’ Yet even as the goblins aspire to neutrality, the other goblin notes: “Gringotts is no longer under the sole control of my race. I recognize no Wizarding master.” This interchange illustrates how the goblins are interested primarily in the well being of the goblins and do not desire entanglements with the wizards. In a world where money and power are inextricably entwined, however, such a position is untenable.

Safekeeping Evolves into Banking

Another problem with money systems that utilize precious metals stems from the fact that people will tend to hoard good money. The operation of Gresham’s Law leads us to believe that there will be piles of good money lying around in various hiding places. Where there are piles of valuables lying around there are bound to be robbers who will try to steal those valuables. Indeed, it is the attractiveness of money to thieves that gave rise to what we now call banks.

Early bankers were primarily safe keepers of other people’s precious metals. The first bankers were probably goldsmiths, who offered the service of safekeeping gold and other valuables in their strong houses and charged a fee for the service. To keep track of who left what on deposit, the goldsmiths issued receipts to their customers.

The goldsmith’s receipts evidenced a certain amount of gold on deposit. When a customer needed the gold to make a payment to another merchant the receipt would be presented to the goldsmith, the customer would be given back the requested amount of gold and either the existing receipt would be modified to reflect the new balance on deposit or a new receipt would be issued. Of course, when the customer withdrew gold to bring to a transaction with another merchant he was extremely vulnerable to robbers and highwaymen. During the trip from the goldsmith to the place where the transaction was to be consummated, there was plenty of opportunity for bandits to intercept the precious metal.

Eventually, it dawned on some clever merchant to convince his trading partner to take the goldsmith’s receipt as payment instead of the actual gold that the receipt represented. Perhaps both merchants had accounts with the same goldsmith and both recognized the unnecessary risk involved in taking the gold out of the vault and then bringing it back, when all they really needed to do was to tell the goldsmith to move the gold from one account to another. And so, paper money was born.

In time these receipts were considered to be “as good as gold” and indeed represented a right by the bearer to receive payment in gold from the issuing goldsmith. To make trade more convenient, goldsmiths began issuing these receipts in standard denominations, which made the mechanics of exchange much easier, as people could make change without the necessity of having the goldsmith re-write the receipt every time a transaction took place.

Slowly it began to dawn on the goldsmiths that their customers almost never came to actually get the gold that was on deposit—once it was in the vault, it tended to stay there. That is, it stayed there as long as the customers believed it was safe in the hands of the goldsmith. When customers lost confidence in their goldsmith and believed their gold was not safe they would panic and run to the goldsmith to demand their gold back. From the very beginning, therefore, proto-bankers recognized that the key to a stable money system is confidence. A bedrock principle of banking through the ages is the axiom that as long as customers have confidence that the money remains safe in the bank they will not come to retrieve it. To this day, the concept of “safety and soundness” as a means to instill public confidence in the banking system is the underlying principle that informs all banking regulation.16

As it became clear to goldsmiths/bankers that the customers were never going to come get their gold, it also occurred to them that other merchants could use the gold that was just lying around in the vaults collecting dust. For example, a merchant might have a large cargo of goods arriving next week which would generate a large amount of income for the merchant when they were sold two weeks hence, but between now and the time the goods were sold the merchant had some bills to pay and needed gold immediately to make those payments. Enter the goldsmiths/bankers. They began to lend out the gold that was on deposit and charge interest for its use. The merchant could pay off his

obligations this week with borrowed gold and then repay the loan (with inter­

est) in two weeks when the shipment of goods was sold.

Because the transportation of gold was dangerous, however, the bankers just issued receipts evidencing a right to the gold instead of relinquishing the gold itself. The receipts functioned as paper money. As bankers developed the practice of lending out receipts to use as “gold” for payment of debts, they again noticed that only very rarely did anyone actually come to collect the gold that the receipts were supposed to represent. In light of this fact, some goldsm­

smiths abused the system by lending out paper receipts representing more gold than they actually had in the vault. Because the receipts were as good as gold, this usually didn’t present a problem, as merchants passed the receipts amongst themselves as money. If, however, the holders of the receipts ever actually came to collect the physical gold that the paper was supposed to represent, the goldsmith could be embarrassed by being unable to meet all of the demands. So, although lending out the gold on deposit was a profitable sideline for goldsm­

smiths, it needed to be done carefully. The guild of goldsmiths enforced the norms of behavior that kept the issuance of receipts within a safe limit.17

The Magic of Banking

If you take this story about the goldsmiths and substitute “money” for “gold,” “bank note” for “receipt,” and “banker” for “goldsmith” you get a plausible story about the origins of banking and the money system. This is where the Muggle money magic comes in. Let’s consider a very simple economy in which there are three banks and each bank starts with initial capital of $500. Each of these banks would have a balance sheet showing $500 in cash on the asset side and $500 of equity (claims owed to owners) on the liability side. Now let’s assume a depos­

itor comes along and deposits $1,000 in Bank A. Bank A’s balance sheet will change so that it now has assets equal to $1,500 in cash—the original $500 plus the $1,000 from the depositor. Of course the liability side must match, and it does because we have $500 of equity plus a liability of $1,000 (i.e., the amount

17. As an aside, the goldsmiths’ self-policing scheme was an early response to the need for some kind of coordinated regulation in the absence of a unified governmental unit ca­

pable of serving that function. The legacy of guild rules appears today in the securities in­
dustry, which is largely self-policied by a Self-Regulating Organization (SRO) called the Financial Industry Regulatory Authority (FINRA). In the wizarding world, however, reg­
ulation seems sparse and self-regulation seems rather meaningless, since Gringotts is the only bank in the economy.
of money owed to the depositor). By virtue of the customer’s deposit, Bank A now has some extra cash on hand that it can lend out for a profit.

Now let’s assume that Bank A lends $1,000 to Borrower X, who takes the money and deposits it in Bank B. The asset side of Bank B’s balance sheet changes to reflect that it now has $1,500 in cash—the original $500 of equity plus the $1,000 of cash deposited by X—and the liability side changes to reflect $500 in equity plus a $1,000 liability for the deposit owed to X. Bank A’s balance sheet changes, too. Its assets still equal $1,500, but the composition of those assets has changed to be $500 in cash plus a $1,000 promissory note from X (which from the bank’s point of view is an asset because it earns the bank money and entitles the bank to repayment). The liability side of Bank A’s balance sheet stays the same.

Now repeat the process with Bank B making a $1,000 loan to Borrower Y, which Y then deposits into Bank C. Bank B’s balance sheet changes to reflect that its assets are not all in cash, but instead consist of cash of $500 and a promissory note of $1,000 from Y. Bank C’s assets have grown to $1,500 and so have its liabilities. Now assume Bank C makes a $1,000 loan to Borrower Z...

In case you haven’t noticed, there’s a little bit of magic going on here, although some critics of banking call it a bit of léger de main. By lending out deposits the banks are in fact creating money out of thin air. Consider the amount of money in the system before the series of lending transactions. We had three banks with $500 capital each for a total of $1,500 in capital. One depositor with $1,000 brings the total amount of money in the banking system to $2,500. After the series of loans, however, we still have the same amount of capital, $1,500, and the original deposit, $1,000, but we also have three loans which were used as money by the borrowers. Counting the loans that were made and redeposited in the banking system, we’ve got an additional $3,000 of money in the system.

This is what I mean by the magic of banking—these banks have created money out of thin air! This is very cool, but it has a downside. Let’s now imagine that Bank A’s original depositor wants her money back. Bank A won’t be able to give her the money back because (assume the balance sheet hasn’t

18. Skeptical readers may be questioning the plausibility of this hypothetical on the grounds that Borrowers X, Y, and Z are unlikely to get a loan and then just leave the loan proceeds on deposit with another bank; they are instead likely to spend the loan proceeds on something. While that is true, the way the dynamic is described is a helpful simplification because we can hypothesize that all of the people receiving payments from Borrowers X, Y, or Z ultimately deposited the payments received in Banks A, B, or C.
changed) the bank only has $500 dollars in cash. That’s not to say that the bank is bankrupt—far from it. The bank is not insolvent because it has a second asset—a promissory note from X, which, assuming X is creditworthy and the loan was properly underwritten, should have an economic value of $1,000. Unfortunately, in order to pay off the depositor, Bank A must require X to repay its loan. To do that, X is going to have to withdraw $1,000 from Bank B, but Bank B is in the same situation that Bank A was in—it only has $500 of cash on hand plus a $1,000 note from Y. In order to pay off X, Bank B will have to call in the loan from Y. And so on and so forth. All the money that was created will disappear in the contraction caused by the notes being called in. Growing the money supply this way can create real volatility.19

In the modern Muggle world it is well understood that even a conservatively run, “rock solid” bank will not have enough cash on hand at any given time to satisfy all its depositors if they were to withdraw all their funds at the same time. To prevent such liquidity crises, Muggle banks can turn to their central bank as a “lender of last resort” (i.e., to make emergency loans to solvent banks so they can pay off depositors). The magic trick of creating money out of thin air also creates real headaches for the Muggle bankers as the money supply expands and contracts. One must ask whether it is worth the trouble. It is.

**Does Money Supply Matter?**

American history has shown that the health of the economy is tied in innumerable ways to a stable, but growing, money supply. In colonial times there was not enough gold and silver in British North America. Under the economic thinking of the day most precious metal was siphoned off to England, leaving the colonists to barter and otherwise improvise their way through

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19. This process is called fractional reserve banking and banks really do create money this way. Modern banks understand, however, they cannot lend out 100 percent of their deposits and they are in fact legally prohibited from doing so. Principles of safety and soundness require that only a fraction of the deposits be lent out with the balance being held as “reserves” for meeting future obligations. In the hypo discussed in the text, if the banks had lent out only 80 percent of the deposits they received, the money supply would have grown in a much less dramatic way. Bank A would have lent X only $800, keeping a reserve of $200; Bank B would have lent Y only $640, keeping a reserve of $160; and Bank C would have lent Z only $512, keeping a reserve of $128. Under this scenario, the money supply would have expanded by $1,952 instead of $3,000. While the expansion would have been more modest, the contraction would have been less dramatic as well.
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American history has shown that the health of the economy is tied in innumerable ways to a stable, but growing, money supply. In colonial times there was not enough gold and silver in British North America. Under the economic thinking of the day most precious metal was siphoned off to England, leaving the colonists to barter and otherwise improvise their way through

19. This process is called fractional reserve banking and banks really do create money this way. Modern banks understand, however, they cannot lend out 100 percent of their deposits and they are in fact legally prohibited from doing so. Principles of safety and soundness require that only a fraction of the deposits be lent out with the balance being held as “reserves” for meeting future obligations. In the hypo discussed in the text, if the banks had lent out only 80 percent of the deposits they received, the money supply would have grown in a much less dramatic way. Bank A would have lent X only $800, keeping a reserve of $200; Bank B would have lent Y only $640, keeping a reserve of $160; and Bank C would have lent Z only $512, keeping a reserve of $128. Under this scenario, the money supply would have expanded by $1,952 instead of $3,000. While the expansion would have been more modest, the contraction would have been less dramatic as well.
economic transactions. Foreign coins from many nations circulated freely in the colonies, but they did not serve as a standard of value. A Spanish dollar might be welcome in New York and accorded the equivalence of 81 pence, while that same Spanish dollar might be viewed with some suspicion in Virginia and be given a value of only 60 pence, with merchants in Philadelphia willing to part with 72 pence for a Spanish dollar.20 Imagine the difficulty of a seller in New York shipping goods to a buyer in Virginia on a vessel out of Philadelphia pursuant to a contract denominated in pounds but actually being settled with whatever coin was available—Spanish dollars, French écu, Portuguese cruzado or Dutch ducatoons.21 This is the problem of not enough money—it is hard to consummate transactions because the medium of exchange (i.e., acceptable money) is not available in sufficient amounts to pay everyone what they are owed.

Of course, all of this would have been a lot easier if England had just given the colonies enough money, but that didn’t happen, so the colonies had to limp along trying to make deals happen without having sufficient coin to facilitate commerce. The colonists, in time, began to establish their own banks and those banks began to issue money, which relieved the money shortage somewhat. But the currency of even well-respected local banks often didn’t carry much weight in distant cities where people had never heard of those banks and had no reason to trust their notes. With banks issuing notes that represented claims against the money on deposit, the dynamics discussed above in the context of the goldsmiths came into play. Some banks issued too many notes and the value of those notes declined as the market discounted them in light of the possibility that they would not be honored. If things really got out of hand, holders of those notes would descend on the issuing bank and demand payment, which, of course, the bank would not be able to honor, thereby causing the bank to fail.

So, while too little money was a problem for commerce, too much money was a problem as well. Without a growing money supply, transactions were difficult to execute because there was not enough money to make the deal hap-


21. Given the confusion of different coins with different values in the various colonies, it is not surprising that the Founders decided to give Congress the power to “coin Money, regulate the Value thereof, and of foreign Coin, and fix the Standard of Weights and Measures.” U.S. Const. art. I, §8.
pen. When there was too much money deals didn’t happen either because people discounted the money. Finding the right balance between too much and too little required the coordination of a central bank. Historically, Americans have been very skeptical of central banking, although the government did eventually take on the job of issuing all the money—not just the coins. The wizards, with only one bank apparently are more comfortable with a central bank, but in both worlds regulating the money supply has had significant social and political ramifications.

Money Supply in the Wizarding World

A recurring criticism of central banks is that by providing a stable currency they serve the interests of the wealthy without regard to the lower classes. Throughout American history major political battles have been fought over the money supply, generally with poor folks, farmers, and debtors favoring a loose money policy (inflation) and rich folks and creditors favoring a tight money policy. In the days before floating interest rates, the reason for this tension was easy to see: in an inflationary environment debtors could pay back loans with relatively less expensive money. So, for instance, the agrarian regions of the South and West opposed the Bank of the United States in part on "loose money" grounds and in part because its promise of a standard national currency only seemed to be an important benefit for Northern industrialists who were selling their goods on a national scale. Farmers didn’t much care about stable money because they only traded locally and the local currency was fine by them. In all regions, people feared that a central bank would concentrate economic (and political) power in the hands of a few.

Throughout our history the regulation of the money supply has fueled political battles that were little more than thinly disguised class warfare. Topics from American History class, like the issuance of continentals during the Revolutionary War (and the decision to redeem them after the formation of the new country), the battles over the first and second banks of the United States, the role of greenbacks in the Civil War, the Free Silver Movement, William Jennings Bryan’s “Cross of Gold” speech, the formation of the Federal Reserve System, the tight money policy that precipitated the Great Depression, the Bretton Woods Agreement, and the decision to drop the gold standard, among many other incidents, are internalized as odd trivia facts, known by students across the country but frequently not truly understood because the real story behind those events is a legal, social, political, and economic problem beyond the ken of many high school history teachers.
While the dynamics of the banking system in the wizarding world appear to be quite different from those of the Muggle world, the wizards must wrestle with the same policy issues. There is no evidence in the Harry Potter books that money circulates through intermediaries.22 From the Muggle perspective, without lending by intermediaries it is difficult to see how the money supply will grow sufficiently to support a robust economy. If Gringotts does not lend out the gold that is on deposit, the money supply would appear to be stagnant. While the wizard economy may work differently, the wizards cannot escape the implications of the economics of the money supply. The wizard economy must suffer the consequences of scarce currency—some deals won’t happen or will happen only with great difficulty given the challenges of figuring out how to pay for things when there is no reliable medium of exchange. In addition, the existing money may actually become more valuable as a result of deflation.

When there is too little money in an economy and lots of goods and services that require payment in money, the value of the money goes up in a dynamic that is the opposite of inflation: deflation. In a deflationary environment people who already have money will find their money is even more valuable. Extremely tight money conditions tend to reinforce the status quo—just the sort of thing the Malfoys would love and the Weasleys would suffer from. It would also make it very difficult for entrepreneurs to launch new enterprises, as the cost of capital would be very dear.

When the value of money increases, the cost of attracting capital goes up too, making it especially difficult for new businesses to get off the ground. At the end of *The Goblet of Fire* Harry invests in the Weasley brothers’ joke shop. Harry’s capital contribution seems like more of a gift than an equity investment or a loan, but in any event it is crucial to financing the start-up business.23 Had Harry not been keen to rid himself of the tainted money he won in the Tri-Wizard Tournament, it is not clear where Fred and George would have obtained the funds necessary to open their business. It does not appear that there is any other source of capital than the existing piles of old family money.24

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22. *But see* Chapter 16 in this volume by Heidi Mandanis Schooner where she speculates that Gringotts could be engaged in fractional reserve banking. She raises an interesting idea to consider as a thought experiment, but there is precious little in the books themselves to support the idea that Gringotts is a true financial intermediary.

23. Although the Weasley brothers seem to consider Harry’s money a loan, in *The Half Blood Prince* Harry seems uninterested in being repaid.

24. This is true even for Voldemort, an orphan whose birth mother died poor. As Harry notes: “I don’t know whether [Voldemort] was ever inside Gringotts. He never had gold there when he was younger, because nobody left him anything.” *Deathly Hallows* 491.
The various wizard families all start with some initial endowment of wealth. We do not know where the money came from—it is just taken as a given. In a modern capitalist society we expect motivated entrepreneurs like Fred and George Weasley to put resources to work making things others will value. We say these businesspeople are “adding value” or “creating wealth” and they deserve to be paid for it, but if there is only so much money in existence, that money will be subject to revaluation as participants in the market vie for its use.

Without bank lending to expand the money supply it would appear that wizard money exists in a near “steady state.” One of the problems of a stagnant money supply is that it reinforces the economic status quo and makes it more difficult for entrepreneurs to attract capital and create wealth. Without a growing money supply, initial endowments of wealth are more persistent over time and tend to perpetuate wealth. Eventually, the society ends up with a world where wizards either have money or they don’t. This supports the class warfare theme that pervades the books with countless instances of Malfoy taunting and insulting Weasley for his family’s lack of wealth.

Of course, the magical money supply might grow by other means. The most likely source of additional gold is magic itself. Suppose the wizards could just conjure gold out of thin air—that would make managing the money supply an impossible task. It cannot be, however, that wizards possess that power or else gold would be useless as money and, furthermore, there would not be the range of material wealth among various characters that is on display in the books. It appears, therefore, that the power to conjure is not limitless. For instance, when concocting a potion a wizard apparently needs to have the ingredients on hand and cannot merely conjure them into existence. Also, the achievement of Albus Dumbledore and Nicholas Flamel in developing the Sorcerer’s Stone would seem quite trivial if wizards generally could conjure gold at will.

We do know, however, that the Sorcerer’s Stone was in the custody of Gringotts for some period of time. Perhaps they used it to convert base met-

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25. Leprechauns can conjure “gold” out of thin air, but as we see in *The Goblet of Fire* it is just a trick—it doesn’t last. The Leprechaun “gold” is essentially worthless, as seen in *The Deathly Hallows*, where a goblin is examining a golden coin through an eyeglass, and then tosses it aside when he realizes it is Leprechaun gold. *Deathly Hallows* 530.

26. This may be one of the five Principal Exceptions to Gamp’s Law of Elemental Transfiguration. All we know of Gamp’s Law is Hermione’s explanation to Ron when she tells him why she cannot conjure food out of nothing. “It is impossible to make good food out of nothing! You can Summon it if you know where it is, you can transform it, you can increase the quantity if you’ve already got some.” *Deathly Hallows* 292–93. Of the five Principal Exceptions, Hermione only gets through one: food. Is it possible that gold (or money?) is one of the other four?
als into gold and thereby augment the money supply. Alternatively, there is a
reference to the goblins engaging in the exchange of Muggle money, so perhaps
they acquire gold in the Muggle world by using the exchanged money as pay­
ment. Or maybe the gold supply grows by virtue of mining activity, although
the books contain no reference to mineral extraction. Finally, Gringotts might
supplement the gold supply by looting ancient graves. We know from The Pris­
oner of Azkaban that Bill Weasley was employed as a curse breaker in Egypt, which
makes one wonder if part of the money supply comes from plundering the
tombs of the pharaohs.

The short history of Muggle banking provides a context for thinking about
the role that Gringotts plays in the wizard economy. Although Gringotts is re­
ferred to as a “bank,” there is a decidedly child-like quality to the “banking”
they provide. In Gringotts the actual coins deposited by the customer are kept
in the vault, much the way I believed as a child that the same silver Ben Franklin
half-dollars left by the tooth fairy that I deposited in the bank would be re­
turned to me at a later time. At one time in the evolution of Muggle banking
in, say, the early Middle Ages, that was exactly how banks worked, but mod­
ern Muggle banks treat money as a fungible commodity. The deposits are all
mixed together. Gringotts seems more like a storehouse for valuables than a bank
in the modern sense, or in contemporary terminology, Gringotts is less a bank
than it is a safe deposit company. People leave valuables there for safe keeping
and come back to retrieve those exact valuables at a later time—sometimes
much later, as apparently some of the vaults have been in the same family for
ages.27

It is not clear whether the goblins are free to lend those valuables out to
others for a price.28 Of course we can only speculate about how Gringotts re­
ally works. Although a customer’s money is in the vault when the customer
appears, this might be a bit of magic. Who knows what the goblins do with the
coins in between visits by the customers? It could be that Gringotts really is a
bank, but we have no indication in the books themselves that the goblins are
anything but safekeepers of other peoples’ valuables.

If Gringotts is not engaged in lending or investing, the economics of their
business plan is hard for a Muggle observer of the banking system to under­

27. Griphook explains that the Lestrange vault is “one of the most ancient chambers. The
oldest Wizarding families store their treasures at the deepest level, where the vaults are
largest and best protected.” Deathly Hallows 509.

28. In The Goblet of Fire Ludo Bagman is indebted to “the goblins” for some gambling
losses, but it is not clear whether this is the result of a loan from Gringotts or merely a gob­
lin bookie who is owed for lost bets.
stand. In the Muggle world safe deposit box rental is seen as only a marginally profitable business. Yet Gringotts seems to make a profitable business out of it, perhaps because of their monopoly over coinage and other sidelines such as the exchange of Muggle money into wizarding money, and their status as the only “bank” in the wizarding world. It may be that Gringotts’ success comes from having the market power to extract monopolist rents from its customers.

Bank Security in the Muggle and Wizarding Worlds

That being said, Gringotts still must deliver the financial services it promises or new competitors will spring up to take away some of those monopolist rents. Given that Gringotts is located on Diagon Alley not far from the intersection with Knockturn Alley (hardly the best neighborhood in the wizarding world), the goblins have to take measures to ensure that the valuables stored with them are indeed safe. This is consistent with legal requirements in the Muggle world where banks are required to take precautions to ensure the security of bank premises and the assets located on those premises.

The level of security at Gringotts has no peer in the Muggle world. Gringotts’ main strategy for safeguarding the valuables entrusted to them is to deploy a large number of goblin guards throughout the premises. The goblins are widely feared and may serve a general deterrent function for would-be robbers. The actual vaults are hidden far below the ground, accessible only by special goblin-driven carts. The goblins rely on a hierarchy of authority to ensure that security is enforced—for instance, only certain goblins can ride in the carts down to the vaults.

Having been rumored in earlier books, in The Deathly Hallows, it is confirmed that Gringotts does guard some vaults with dragons—a security measure Muggle laws do not allow.
gle bankers can only dream of. We also find that Gringotts has sophisticated measures in place to detect imposters and to prevent charmed objects entering the premises. The high security vaults are protected by a biometric security system far more advanced than any currently in use in modern Muggle banks. In the Muggle world bankers have been experimenting with security systems based on thumbprints, face recognition and retinal scans, but nothing comes close to the goblins' biometric security system. The goblin system permits the vaults to be opened by a Gringotts goblin passing a finger down the side of the door or pressing a palm against the vault's door. Apparently, the fate of non-goblins who try to open the vault is to be transported into the locked vault with no hope of escape. Gringotts clearly takes security very seriously and enjoys a reputation as an impregnable stronghold. The security system is so tight and widely acknowledged in the wizarding world that when Quirrell broke into Gringotts trying to get the Sorcerer's Stone, it was a big story in the Daily Prophet. Even though the break-in was unsuccessful in that Quirrell did not get what he sought, the mere fact that someone broke into the bank made it newsworthy.

In order to further reinforce a sense of confidence, both Gringotts and Muggle banks use the technique of prominently posting a notice designed to convince customers that their money will be safe in the institution. The Gringotts approach is to post a conspicuous notice that holds out the prospect of painful withdrawal penalty to warn away robbers while at the same time reassuring honest customers that their money is safe. Modern U.S. banking regulation takes a different approach to achieve the same end. The FDIC requires that all insured banks post a notice at each teller window and in advertising informing customers that the bank is FDIC insured. Although the notice is not as scary as the rhyme on the Gringotts door, the goal is to reassure depositors that no matter what happens their money will be there when they come back to get it.

33. When Harry, Ron, Hermione and Griphook break into Gringotts, they end up triggering these defenses, including a kind of waterfall that can strip away all magic, at which time Griphook exclaims: “The Thief’s Downfall! It washes away all enchantment, all magical concealment! They know there are imposters in Gringotts, they have set off defenses against us!” Deathly Hallows 534.
34. Sorcerer’s Stone 75; Deathly Hallows 536
35. Gringotts, according to Hagrid, is the “safest place in the world for anything yeh want ter keep safe—'cept maybe Hogwarts.” Sorcerer’s Stone 63.
36. The Gringotts notice is reprinted at the beginning of Chapter 16 in this volume by Heidi Mandanis Schooner.
It appears that Gringotts' enthusiasm for security might, however, go above and beyond the legal standards required of them. In the Anglo-American tradition, safe deposit companies are considered bailees and must exercise due care with the valuables entrusted to them. A typical statutory standard can be found in Washington state law:

Whenever any safe deposit company shall let or lease any vault, safe, box or other receptacle for the keeping or storage of personal property such safe deposit company shall be bound to exercise due care to prevent the opening of such vault, safe, box or receptacle by any person other than the lessee thereof, or his or her duly authorized agent, and the parties may provide in writing the terms, conditions, and liabilities in the lease.38

The legal standard of a bailee in the Muggle world is "ordinary" or "due" care, which in simple terms means that the safe deposit company must exercise the level of care which a prudent and diligent person would take of goods belonging to those with whom she transacts business. While this requires taking more care than one would with one's own goods, it does not mean that the bailee becomes an insurer of the entrusted goods. The exact duty owed varies according to the type of goods bailed and the extent of the contractual promise to look after the goods. Ordinarily, if the entrusted goods are very valuable and easily damaged, lost, or stolen, then the standard is higher. A Muggle would expect, however, to find a disclaimer of liability in the contract defining the bailment relationship. We are not privy to the account documentation that established the Potter account at Gringotts, but there is no mention of the goblins seeking to get out from any responsibility to take anything but the utmost care of the entrusted goods. Indeed, it appears that the goblins have their own code for dealing with the bailment relationship which covers, among other things, confidentiality of client information.39

In addition to the security program sketched out above, Gringotts has special protocols to make sure that customers who seek access to the vaults are authorized to do so. For instance, in the Deathly Hallows we find that one way for a Gringotts customer to access his or her vault is with their unique wand.40 Ordinarily, however, access is permitted only upon the presentation of a special key. In the first book, for instance, when Harry goes to get his money he

39. As the goblin Griphook explains the rules: "It is against our code to speak of the secrets of Gringotts. We are the guardians of fabulous treasures. We have a duty to the objects placed in our care." Deathly Hallows 489–90.
do so by presenting the goblins with a golden key that fits his vault. Special
dkeys have long been a part of private banking where bankers provide the dis­
creet service permitting customers to hide assets in accounts that cannot be
accessed by anyone but the bearer of the key. Holding a key serves the func­
tion of both allowing access to the vault and signaling a certain status to oth­
ers and especially the goblins, of the bearer’s place in the wizarding world.
Harry Potter inherited a Gringott’s vault key and therefore a place in the wiz­
ard social order, yet he is humble enough to have empathy for poor Tom Ridd­
le. Harry hypothesizes that the young Voldemort “would have envied anyone
who had a key to a Gringotts vault.” Harry thinks that Riddle would “have seen
it as a real symbol of belonging to the Wizarding world.”41

In the modern Muggle world these kinds of banking relationships where
access is provided solely by a person bearing a key or passbook or document
without also establishing the bearer’s identity as an account holder are be­
coming increasingly rare. International police efforts to track down terrorist
financing and drug profits are forcing banks to be more aggressive with cus­
tomer information and to produce that information for law enforcement of­
ficials upon request. Nevertheless, in the wizarding world, whether it is Harry
with a special key, Hagrid with a special letter, or Bellatrix with her wand, ac­
cess is provided on a “no questions asked” basis unless the goblins are some­
how on notice that the person with the key, letter or wand is an imposter.

During times of crisis, however, financial institutions must make changes
in security to address the threat. For example, as evidence of Voldemort’s re­
turn grew more persuasive, the goblins increased security at Gringotts so that
it was taking five hours for patrons to get their gold. In The Half Blood Prince,
one customer, Arkie Philpott, suffered the added indignity of having a Pro­
bity Probe inserted in an unnamed part of his person apparently as part of the
goblin security protocol. Like the magical equivalent of a metal detector, the
probes are designed to detect spells of concealment and hidden magical ob­
jects. Also like metal detectors, the effectiveness of the device is limited by the
skill and attentiveness of its operator, as demonstrated by Harry putting a Confundo
spell on the administrators of the Probity Probes.42

41. Deathly Hallows 491.
42. “Ah, Probity Probes,” sighed Travers theatrically, “so crude—but effective!”

And he set off up the steps, nodding left and right to the wizards, who raised the golden
rods and passed them up and down his body. The Probes, Harry knew, detected spells of
concealment and hidden magical objects. Knowing that he had only seconds, Harry pointed
Draco’s wand at each of the guards in turn and murmured, ‘Confundo’ twice.” Deathly Hal­
lows 529.
If the Probity Probe is designed to determine the true identity of people coming to the bank to conduct business, the Muggle equivalent is a set of rules covering financial institutions called the “Know Your Customer” regulations. The regulations require financial institutions to establish a “Customer Identification Program” designed to (i) verify the identity of new accountholders, (ii) ensure that the institution has a reasonable belief that it knows each customer’s identity, and (iii) compare the names of new customers against government lists of known or suspected terrorists or terrorist organizations. These rules apply even if the “account” that the financial institution maintains is a safe deposit box or a safe-keeping arrangement.

In addition to keeping tabs on the customers at the time an account is opened, U.S. banking law conscripts bankers into a spy network so that the government must be informed whenever the customer engages in a “suspicious activity.” In connection with safe deposit accounts, federal banking guidelines indicate that Suspicious Activity Reports should be filed where:

- The customer visits a safe deposit box or uses a safe custody account on an unusually frequent basis.
- Safe deposit boxes or safe custody accounts are opened by individuals who do not reside or work in the institution’s service area despite the availability of such services at an institution closer to them.
- A customer exhibits unusual traffic patterns in the safe deposit box area or unusual use of safe custody accounts. For example, several individuals arrive together, enter frequently, or carry bags or other containers.

43. The statutory authority for these rules is section 326 of the USA Patriot Act, codified at 31 U.S.C. §5318(l) (Supp. III 2003).

44. The actual regulations appear in several places throughout the Code of Federal Regulation because they have been adopted by the several federal banking agencies: Office of the Comptroller of the Currency, 12 C.F.R. §21.21(2) (2008); Federal Reserve System, 12 C.F.R. §208.63(2) (2008); Federal Deposit Insurance Corporation, 12 C.F.R. §326.8(2) (2008); Office of Thrift Supervision, 12 C.F.R. §563.177(2) (2008); National Credit Union Administration, 12 C.F.R. §748.2(2) (2008); and the Department of the Treasury, 31 C.F.R. §103.121 (2008).


that could conceal large amounts of currency, monetary instruments, or small valuable items.

- A customer rents multiple safe deposit boxes to store large amounts of currency, monetary instruments, or high-value assets awaiting conversion to currency, for placement into the banking system.47

These regulations would not cause problems for Harry, as he apparently accesses his Gringotts vault only at the beginning of the school year, but the strategic value to the government of having the bank reporting this information should be clear. As the only wizard bank, Gringotts could keep tabs on almost everyone in the wizarding world and could use that information to aid the Order of the Phoenix, the Ministry of Magic, or Lord Voldemort. Most likely, however, whatever the goblins do will be designed to help the goblins themselves.

Conclusion

So, in the end, Muggle banking and wizard banking are not the same things, but they share some important characteristics. Banking in the wizard world seems to have stopped evolving in the Middle Ages, when bankers were really just trusted keepers of valuables. Apparently, wizards do not manage their money supply the way Muggles do by using the slight of hand of fractional reserve banking to create money out of thin air. Instead, the money supply in the wizard world seems stagnant, creating social problems that emphasize disparities in wealth. Even so, the money that does exist is subject to security measures in both worlds that are designed to instill confidence in the banking system.

Perhaps the most interesting aspect of banking in both the magical and the Muggle worlds is the crucial place in the balance of power occupied by those who control the money supply, be they the goblins who run Gringotts or the MBAs who run the Federal Reserve. Political power and economic power often go hand in hand. The United States took a long time to adopt a system of central banking and when the Federal Reserve Act was finally passed, the structure of the system was intentionally diffuse so that it would be difficult for the central bankers to exercise too much power over the economy.

Nevertheless, bankers still wield a great deal of power, as shown by the influence the remarks of an Alan Greenspan or a Ben Bernanke can have on