

Myrmikan Performance

April 2018

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Credit Crazyiness

Financial bubbles are not accidents but rather inevitable outcomes of our asset-backed banking system. To illustrate: imagine a homeowner who owns a \$1 million house free and clear. He goes to a bank and borrows \$800,000 against the house. This credit money springs into existence as an accounting entry of a private bank—it is the creation of credit out of nothing. The borrower goes out into the market with these newly created funds and starts purchasing other assets: stocks, perhaps, or a weekend house. The new money drives prices higher, including those of the assets that form the collateral of the banking system. Since its collateral value has increased, the banking system is happy to increase its loans to borrowers, which pushes prices yet higher, and so on in a positive feedback loop. Price signals then prompt over-development, which eventually lowers rents, which causes borrowers to default, the fractional reserve process goes into reverse, and the banking system collapses.

Irving Fisher, whom Milton Friedman anointed “the greatest economist the United States has ever produced,” described it thus:

In boom times, the expansion of circulating medium accelerates the pace by raising prices, and creating speculative profits. Thus, with new money raising prices and rising prices conjuring up new money, the inflation proceeds in an upward spiral till a collapse occurs, after which the contraction of our supply of money and credit, with falling prices and losses in place of profits, produces a downward spiral generating bankruptcy, unemployment, and all the other evils of depression.¹

The description of this process should resonate with anyone who was sentient during the internet bubble and the housing bubble and now the crypto bubble and the new housing bubble. Housing may not feel as though it’s in a bubble. We don’t read the same amusing anecdotes of “adult entertainers” flipping houses by the dozen. One reason is that the panic of 2008 resulted in a further concentration of wealth—the banks were saved and the people ruined—and the reckless activity is now in the wholesale market:

Several major lenders are offering 1 percent down payment loans, and now a large national mortgage company has gone all the way, requiring absolutely nothing down. Movement Mortgage, a top 10 retail home lender, has just introduced a financing option that provides eligible first-

¹ Douglas, Paul H.; Fisher, Irving; Graham, Frank D.; Hamilton, Earl J.; King, Willford I.; Whittlesey, Charles R. (July 1939), *A Program for Monetary Reform*: 4.

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time buyers with a nonrepayable grant of up to 3 percent. This allows applicants to qualify for a 97 percent loan-to-value ratio conventional mortgage—essentially zero from the buyers, 3 percent from Movement.

To illustrate: On a \$300,000 home purchase, a borrower could invest nothing from her or his personal funds, while Movement contributes \$9,000 from its resources. The loan terms also permit seller contributions toward the buyers' closing costs to help swing the deal. Duke Walker, branch manager for Movement for the Washington, D.C., area, said that although the program is brand-new, it's already "going great guns." ...

Quicken Loans, the third-highest volume lender according to Mortgage Daily, a trade publication, offers a 1 percent down option, as does United Wholesale Mortgage, another large national lender.... In the case of Movement's new plan, the mortgages are being originated for sale to giant investor Fannie Mae, which operates under federal conservatorship....²

So reported the Chicago Tribune in June of last year. All the lessons from the 2008 housing crash have been erased completely: a quasi-government agency, *which operates under federal conservatorship*, is guaranteeing loans made by reckless institutions to shaky borrowers. The difference is that the reckless institutions are not banks but non-bank lenders, such as Movement Mortgage, Finance of America (a Blackstone subsidiary), Quicken, and many others.

There is much chatter in financial circles about how much healthier U.S. banks are post-2008 because new rules prevent them from engaging in the rampant sub-prime lending that nearly collapsed the financial system. Indeed, non-bank lenders now account for 64% of mortgage originations (up from 30% in 2013) and service the worst of the borrowers (the median FICO score for GSE loans originated by non-banks is 716 versus 746 for banks).³ Whereas a 20-to-1 levered bank that loses only 5% on its investments puts its depositors' funds and, therefore, the financial system at risk, equity losses by hedge funds and other investors in non-bank lenders would not entail similar systemic risk.

And yet, if we follow all of the credit tributaries back to their source, we see that the system is more malignant than ever. The banks are, in fact, still funding risky mortgages, just surreptitiously. In the new normal mortgage transaction, the non-bank lender funds its loan to the borrower by itself borrowing "warehouse loans" from a bank. These bank loans are secured by the new mortgage and are extremely short-term, generally for only 15 days, which is the time needed for the non-bank lender to flip the mortgage to one of the GSE's (Fannie Mae or Freddie Mac) or Ginnie Mae. These government-sponsored enterprises then securitize the incoming mortgages into mortgage-backed-securities (MBS) and guarantee the payments "to increase affordable, sustainable lending," Fannie Mae claims.⁴ Keep in mind that the guarantor, in this case, *operates under federal conservatorship*.

² <http://www.chicagotribune.com/classified/realestate/ct-re-0618-kenneth-harney-20170614-column.html>

³ https://www.urban.org/sites/default/files/publication/98216/housing_finance_at_a_glance_a_monthly_chartbook_april_2018_0.pdf

⁴ Kim, You and Laufer, Steven and Pence, Karen M. and Stanton, Richard and Wallace, Nancy, Liquidity Crises in the Mortgage Market (2018-03-08). FEDS Working Paper No. 2018-016. Available at SSRN: <https://ssrn.com/abstract=3137994> or <http://dx.doi.org/10.17016/FEDS.2018.016>

Even though Fannie Mae bonds carry the disclaimer: “Neither the certificates nor interest on the certificates are guaranteed by the United States, and they do not constitute a debt or obligation of the United States or any of its agencies of instrumentalities other than Fannie Mae,” the market treats the securities as near-sovereign debt because Fannie and Freddie truly are too big to fail. Not only would mortgage originations experience a sudden stop, destroying the housing market (and the local tax base), but the final owners of the securitized instruments would take severe losses. And who owns the \$7 trillion of outstanding MBS?⁵ The Federal Reserve for one: 25% of them.⁶ Banks for another: 27% of them.⁷

No wonder the number of employees at commercial banks decreased 6.4% from 2008 to 2015 even while overall bank credit increased by 25%:⁸ who needs to pay bankers to waste their time evaluating business plans when a bank can borrow depositors’ funds at effectively zero interest and a clerk can call up Fannie Mae buy high-yielding MBS insured by the government? It’s like free money.

Banks have applied this model to the sub-prime auto market as well. Exeter Finance (another Blackstone subsidiary), for example, has borrowed \$1.4 billion from Wells Fargo and Citigroup to issue auto loans. Exeter’s typical customer has a FICO score of 570. But, like the MBS market, Exeter doesn’t sit on the loans—it securitizes them and sells them.

So, it’s true: banks are much less exposed to default risk than they were in 2007. Since mortgage payments are due every month, it is impossible for borrowers to default on the 15-day warehouse loans (unless the GSEs suddenly stop buying them). The subprime auto loans are similarly swiftly removed from the balance sheet. The MBS, which do remain on banks’ balance sheets, are insured implicitly by the government.

Nevertheless, the activity as a whole does create a bubble: the ultimate creators of credit for housing loans remain the banks; the more credit they create, the higher housing prices can go; and the higher housing prices go, the more collateral gets fed to the banks through the MBS system; the more collateral the banks have, and the more credit they can create. Since MBS’s are perceived to be bankruptcy remote, there is no financial limit to how far the insanity can go. And the problem is not just on the MBS market: real estate loans in total make up 49% of the banking system’s assets (auto loans, credit card loans, and loans to “nondepository financial institutions” make up another 13%).

Banks may have shifted mortgage default risk to the government (which means that the next housing crisis will be absorbed by the currency instead of by bank creditors), but they are very much exposed to interest rate risk. More than 92% of new mortgage originations (and roughly 77% of refinancings) are 30-year fixed rate mortgages, yet 70% of bank liabilities are demand deposits.⁹ Borrowing short to lend long does not end well when rates start rising.

5 <https://www.sifma.org/resources/research/us-mortgage-related-issuance-and-outstanding/>

6 https://www.newyorkfed.org/markets/soma/sysopen_accholdings.html

7 <https://www.federalreserve.gov/releases/h8/current/>

8 U.S. Bureau of Labor Statistics, All Employees: Financial Activities: Commercial Banking [CES5552211001]

9 https://www.urban.org/sites/default/files/publication/98216/housing_finance_at_a_glance_a_monthly_chartbook_april_2018_0.pdf

Thus far, the rate banks pay for deposits has not increased much, rising from 0.2% in mid-2015 to 0.37% currently.¹⁰ That will go higher and soon: the yield on the 1-month Treasury bond has climbed from 0.01% to 1.69% currently, and it does not take a lot of effort to buy and roll the 1-month Treasury bond.¹¹ LIBOR, the rate that banks charge each other, also began increasing in mid-2015, jumping from 0.2% to 1.9% currently.¹² Meanwhile, the rate on 30-year mortgages has increased by only 1.1%, so (depending on how a bank finances its capital) margins on new originations have already compressed by 0.6%.¹³ And what about legacy loans? The rate on 30-year mortgages hovered around 3.5% for most of 2016, meaning LIBOR margins on these loans has declined from 3.3% to 1.6% ... and rates are still rising.

It is not coincidence that the bottom in LIBOR corresponded with the bottom in bank employees, the number of which has increased 3.7% since that time. Banks again need bankers to find borrowers and evaluate businesses, and they have turned their sights to so-called “leveraged loans.”

Banks prefer loans to bonds in a rising interest rate environment because, unlike with bonds, payments float with LIBOR. A loan becomes a “leveraged loan” when it is made to a highly levered entity. There are now more than \$1 trillion of these outstanding¹⁴ (only slightly less than the outstanding balance of junk bonds), and more than three-quarters of the ones issued so far in 2018 have been “covenant-lite.”¹⁵

The Interagency Guidance on Leveraged Lending dated March 21, 2013, issued by the Office of the Comptroller of the Currency (OCC), the FDIC, and the Fed, limits bank lending to six times EBITDA.¹⁶ The problem banks face is that non-bank corporate lenders have pushed leverage ratios well above that: for example, more than half of leveraged loans used in leveraged buyouts so far in 2018 have had been levered above the 6x limit, meaning banks cannot participate in the most lucrative part of the market.

Enter the swamp creatures. Senator Pat Toomey last summer wrote a letter to the U.S. Government Accountability Office (GAO) asking if the OCC’s “guidance” was a “rule” for the purposes of the Congressional Review Act (CRA). The GAO rejected the OCC’s position and opined that it was, indeed, a “rule.” Therefore, under the CRA, the rule must be submitted to Congress for review before it can take effect. If Congress were to overrule the rule, then the OCC would forever lose its power to create similar rules in the future. No bureaucracy ever wants to cede power, so OCC chief Joseph Otting announced in March that banks no longer need comply with the “guidance”: “Institutions should have the right to do the leveraged lending they want, as long as they have the capital and personnel to manage that and it doesn’t impact their safety and soundness.” Otting added that he expects leverage ratios to trend upwards. He doesn’t care because now the bureaucrats will be able to point to

¹⁰ Federal Deposit Insurance Corporation, National Rate on Non-Jumbo Deposits (less than \$100,000): 12 Month CD [CD12NRNJ], retrieved from FRED, Federal Reserve Bank of St. Louis

¹¹ Board of Governors of the Federal Reserve System (US), 1-Month Treasury Constant Maturity Rate [DGS1MO], retrieved from FRED, Federal Reserve Bank of St. Louis

¹² ICE Benchmark Administration Limited (IBA), 1-Month London Interbank Offered Rate (LIBOR), based on U.S. Dollar [USD1MTD156N], retrieved from FRED, Federal Reserve Bank of St. Louis

¹³ Freddie Mac, 30-Year Fixed Rate Mortgage Average in the United States [MORTGAGE30US], retrieved from FRED, Federal Reserve Bank of St. Louis

¹⁴ <http://www.leveragedloan.com/official-us-leveraged-loans-1-trillion-market/>

¹⁵ <http://www.leveragedloan.com/leveraged-loans-yet-another-covenant-lite-record/>

¹⁶ <https://www.federalreserve.gov/supervisionreg/srletters/sr1303a1.pdf>

Congress when the leveraged loan market implodes (and maybe use the coming crisis to grab more power).

Consider the insanity. Banks, in a desperate hunt for profits now that the free-money MBS trade is going away, are diving headlong into the craziest part of the corporate debt market just as interest rates are rising. Whereas in the mortgage market banks bear interest rate risk and not default risk, with the leveraged loan market it is the reverse: rates increase with LIBOR until suddenly the borrower cannot pay and defaults. Bankers are not paid to think about the credit cycle or the long-term health of their businesses or the good of the nation, of course; their compensation is transaction based. Even the ones who “get the joke” are highly incentivized to keep quiet about it and push these deals—which are ultimately funded by depositor’s money—as long as they can.

Let us now turn from the banking sector to the shadow banking system to unearth even more credit craziness. This is a topic few if any understand fully due to its complexity, but the rough contours are clear. First, some history. The 1920s bubble was virulent because (like today) banks were allowed to fund long-term mortgages with demand deposits.¹⁷ The Glass-Steagall banking reform prevented banks from paying interest on checking deposits in order to discourage large cash balances from accumulated in demand accounts. Large companies with large cash balances did not like leaving their funds completely idle, especially since their balances exceeded FDIC insurance limits. So, the market developed money market funds which took corporate cash and deployed it into highly liquid, short-term government debt and overnight, senior loans to only the most highly rated banks and corporations. The funds were called “shadow banks” because they preformed the same function as banks: accepting demand deposits (characterized as “investments,” but demand liquidity made them effectively the same as a deposit) and investing in debt, except without being subject to banking regulation.

By convention, market money funds are valued a \$1 per unit and pay interest daily. The tiny duration, senior position, and credit-worthiness of the borrowers make the loans have no possibility of loss, at least theoretically. But theory and practice rarely match fully, and in the panic of 2008 one of the major money market funds “broke the buck,” meaning its NAV per share went below \$1. The Fed was terrified this would lead

¹⁷ An earlier generation of bankers knew that short-term deposits should not fund long-term mortgages. As Paul Warburg wrote: “There is an old banking rule that no bank may grant credit on other terms than those on which it receives credit. The truth of this adage is obvious and the extent to which this principle is carried out is the test of safe or unsafe banking.” This wisdom was reflected in the Banking Act of 1863, the text of which prohibited banks from lending on a mortgage; but, having lent against something else, banks could accept a mortgage as additional security. The Supreme Court then interpreted the provisions so as to facilitate complete evasion of the restriction. The syllabus of *Union Nat. Bank v. Matthews* reads: “A. executed a promissory note to B., and, to secure the payment thereof, a deed of trust of lands, which was in effect a mortgage with a power of sale thereto annexed. A national bank, on the security of the note and deed, loaned money to B., who thereupon assigned them to the bank. The note not having been paid at its maturity, the trustee was, pursuant to the power, proceeding to sell the lands, when A. filed his bill to enjoin the sale upon the ground that by secs. 5136 and 6137 of the Revised Statutes, the deed did not inure as a security for a loan made by the bank at the time of the assignment of the note and deed. Held that the Bank is entitled to enforce the collection of the note by a sale of the lands.” The majority opinion did not deny that the bank had clearly violated the National Banking Act, but quoted and accepted the reasoning of a lower court: “if [the offending bank] should pass the exact line of their power, it would rather belong to the government of Pennsylvania to exact a forfeiture of their charter than for this court in this collateral way to decide a question of misuser by setting aside a just and bona fide contract....’ A private person cannot, directly or indirectly, usurp this function of the government.” *Union Nat. Bank v. Matthews*, 98 U.S. 621, 622, 25 L. Ed. 188 (1878).

In other words, the banks were, then, doing precisely what they are doing now: providing non-bank lenders with the capital to make loans the banks themselves were prohibited from making. And what happened? They nearly all of them collapsed in the panic of 1893.

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to a run on the money market funds, which would freeze the cash large corporations use to make payroll, pay suppliers, etc., so they bailed them out.

The SEC, wishing to prevent a repeat of such an occurrence, imposed rules as of 2016 that force money market funds to allow their NAVs to float and require them to gate investors in the event of a liquidity panic. The whole point of the funds is to house ready cash, so the prospect of a gate completely undermined their function. When the rule change came into effect, about \$1 trillion of money market funds moved into government bond money market funds, which (of course) are exempt from the rules, and around \$350 billion moved into lightly-regulated, so-called “cash funds.” Whereas government money market funds were shooting for a 0.6% return in early 2017, cash funds were promising 2% returns.¹⁸ This is a low figure from an asset perspective but was a fabulous return on “risk-free” cash. But how could these cash funds achieve this risk-free return at time when short-term Treasury bonds had barely any return at all? Easy: through the CMBS market.¹⁹

Whereas MBS contain residential mortgages, implicitly guaranteed by the government, CMBS contain *commercial* mortgage-backed securities: malls and office buildings. Let us consider a typical transaction from early 2017. JP Morgan and Deutsche Bank made (or acquired) \$1 billion of commercial loans yielding 4.5% with maturities of around 10 years.²⁰ The owners of the real estate took the loans out against their existing assets, perhaps, to finance construction of new office towers (in this specific case, the largest single loan was to Jared Kushner against his ownership of a portion of the old *New York Times* building). The banks securitized the loans such that 79% of the loan pool was put into slices of short maturities (meaning they get principal payments first) that got a AAA rating, 16% was put into tranches that were rated between AA and B+, and the remaining 5% was put into a “B-piece,” which has the longest maturity and is first to absorb defaults.²¹

The 5% non-rated B-piece was what is now called the “horizontal risk-retention piece” because post-crisis rules prevent banks from hedging it or using it as collateral. These rules were designed to make this 5% piece behave as a kind of reserve requirement, meaning the banks would be allowed to magnify deposits “only” 20 times through the fractional reserve mechanism. Changes in the rules, however, allow the banks to sell this unfinanceable, dead-weight piece to someone else.

That someone else in this case was the insurance behemoth MassMutual, which has \$675 billion under management. MassMutual issued concurrent with this transaction a \$475 million 60-year bond paying 4.95% fixed rate and used the capital to buy the B-piece, priced to yield 13.9%. The insurance company is not permitted to pledge the B-piece directly to the bond holders (and, thereby, get it off its balance sheet), but its balance sheet is so huge that investors don’t care. The result is that the 5% quasi-reserve requirement, instead of consisting of hard dollars, as intended by the regulations, is now represented by 60-year paper (which a bank can accept as collateral to create more credit!). The banks are freed to do CMBS transactions an infinite number of times. Note that this sample transaction consumed only 10% of the capital MassMutual

18 <https://www.sec.gov/divisions/investment/mmf-statistics/mmf-statistics-2017-2.pdf>

19 E.g., search for “CMBS” in this prospectus of BlackRock Cash Funds: <https://www.blackrock.com/cash/literature/prospectus/pro-brcash-inst-pri-tr-premium-april.pdf>

20 https://www.sec.gov/Archives/edgar/data/1013611/000153949717000408/n889_anxa1-x6.htm

21 http://www.crenews.com/general_news/general/initial-pricing-jpmbd-commercial-mortgage-trust-2017-c5.html

raised: the company already held more than \$50 billion in commercial real estate and was embarking on a headlong dive into the structured market.

The cash funds took the AAA tranches, initially priced to generate yields ranging between 2.1% and 3.5% (though they closed at higher prices / lower yields). Everyone was a winner: the banks made a fortune selling \$1 billion of assets yielding 4.5% at a price that resulted in the average yield falling to around 3.5%; MassMutual locked in a 9% spread for ten years, and the cash funds could offer three times the yield of government money market funds.

Let us distinguish, again, between default risk, interest rate risk, and bubble blowing risk. The cash funds would say that the AAA tranches have virtually no risk of default. In addition, the interest rate risk is low: the position does not become loss-making unless LIBOR (or the competitive funds rate) increases above the CMBS yield before the AAA tranches mature, and the highest tranche has an expected term of only 2.9 years (and these are loans, not bonds, so they are being continually amortized). In addition, if the cash fund experiences withdrawals, the AAA rating in theory makes the tranches shiftable to another party with very little friction (though this proved not to be the case in 2008).

The insurance company, for its part, has long-term liabilities, so it is happy to take the long piece, the return is so high it can absorb some defaults, the debt is collateralized at 70% loan-to-value, and having 60-year capital means it can foreclose and ride out the cycle if it has to. As with the MBS market, the banks have no risk at all because they have moved the B-piece to the insurance company. This seeming lack of risk is why corporations have been putting their cash into cash funds and why regulators are unconcerned.

But what about bubble-blowing? No matter how the banks slice and dice the debt instruments, corporate cash—not assets, not investments, not savings, *cash*, of the overnight kind—is being used through this Byzantine system to finance the construction of office towers, which are long-term, interest-rate sensitive, illiquid assets. The system as a whole is borrowing short to lend long, the same pernicious function banks perform in the text-book model.

As with real banks, the structure works as abstract numbers as long as yields do not rise too quickly and as long as investors (playing the role of depositors) do not panic all at once. Missing from the calculation is what happens when the over-capacity that results from building assets not in accordance with consumer demand but instead on the basis of bank credit prestidigitation causes severe shortfalls in cash flow.

How many investors—or even policy makers—understand the structures described above? The Federal Reserve clearly thinks asset market are too rich and is raising interest rates to control them (as it did in 1920, 1928 and 2006). But what happens when rising rates tip over the credit pyramid (as happened in 1921, 1929, and 2008)? Yes, when the next crisis hits the Fed will print and print and print some more to extend this madness as long as it can. But there are real world consequences—an ever greater share of economic effort is spent building long-term physical assets for which there is little end demand.

To understand where this is all headed, let us review some lines from Constantino Bresciani-Turroni's 1931 treatment of the Weimar hyperinflation:

Paper inflation is the cause of a series of disequilibria in the economy of a country. Its effects are analogous to those of certain illnesses which cause in the human body an abnormal and strange growth of certain muscles while other groups of muscles are atrophied. Inflation prevents the various parts of the economy of a country from developing in a harmonious manner; and it follows that some parts are over-developed whilst other are undeveloped. A typical example of this under-development is given precisely by the shortage of working capital. This shortage is not a monetary factor but the consequence of the excessive "immobilization" of capital which occurs during the inflation....

"Immobilization" means the displacement of the economically most advantageous ratio between "fixed capital" and "circulating capital"; in the direction of an excess of the former over the latter. It is a phenomenon analogous to that which occurs in the expansion phases of the Trade Cycle. The Italian economist, Ferrara, records that in the well-known articles of Wilson is expounded the theory that the English crisis of 1847 and the disappearance of floating capital were due to the immobilization of enormous wealth in railway concerns. To the classical economists, "the conversion of circulating capital into fixed capital" meant essentially a fall in the subsistence goods destined for the working classes relatively to the total investments of entrepreneurs. According to Mill, that which had been spent on the construction of a railway, "when once expended, is incapable of ever being paid in wages or applied to the maintenance of labourers again; as a matter of account it is that so much food and clothing and tools have been consumed, and a country has got a railway instead." However, according to Mill, the production of new fixed capital generally happens gradually and is not disadvantageous to the working classes. It would be so if it took place suddenly to a great amount, "because much of the capital sunk must necessarily in that case be provided from funds already employed as circulating capital."

... the phrase "conversion of circulating capital into fixed capital" expresses in a crude way a genuine fact—a change in the direction of production, under the influence of certain circumstances (inflation in our case), the production of final consumption goods declining absolutely or relatively whilst the production of certain capital goods increases. In substance what happens under the influence of inflation is a change in the composition of the stock of capital goods. The quantity of lower order "intermediate goods" (i.e. those near to the finished goods for direct consumption) diminishes; the quantity of higher order intermediate goods (e.g. iron) increases, and plant for the production of these latter commodities is extended.

The abnormal production of capital goods is financed in the last analysis by the "forced saving" of the people who have had to restrict

their consumption of final goods.... The resistance of the workers to the reduction in real wages (which was the result of the depreciation of the currency) became more and more insistent. The working classes sought to re-establish the earlier level of real wages and to keep it stable. The profits which entrepreneurs derived from the inflation decreased. They began to experience difficulties in financing their businesses. It is well known that from the beginning of the second half of 1922 there was an increasing demand for bank advances for entrepreneurs; a demand which the commercial credit banks, whose deposits were continually falling, were incapable of satisfying. The shortage of capital began to be felt, with the consequence that production was limited.

It was then that the Reichsbank intervened by extending enormously its short-term loans. Thanks to these loans the shortage of capital was temporarily evaded. Employers were able to pay higher money wages; but the prices of all kinds of consumption goods increased immediately, and the attempt of the working classes to increase real wages came to nothing. They then obtained a fresh rise in money wages; there followed a new expansion of credit and a further rise of prices and of money wages. The consequence was a formidable increase in the volume of Reichsbank loans. It was observed in Austria as well as in Germany that the inflation proceeded with quickened pace especially after the so-called "system of the index" was applied to wages, i.e. after the workers had obtained money wages which varied with the index number of the cost of living.

In other words, as the German economy devoted ever more of its resources to expanding fixed capital well beyond that demanded by the market, it became ever harder to find additional capital to fund more malinvestment. Terrified at the consequences of a thorough liquidation, the central bank through the currency provided the ultimate source of financing, as the Fed did in 2008 and will again in the next big crisis. The excess economic effort spent on constructing malinvestments must, by definition, be matched by a diminution of effort elsewhere in the economy, the production of consumer goods for the lower classes. Is it any wonder that Bernie Sanders and even Marx himself have growing numbers of followers?

More statism is the not answer. It is, in fact, impossible for the bubble feedback loop to establish itself in a free market, in which competitive pressures force banks to redeem their liabilities into gold on demand. Let us reconsider the hypothetical example above in which a bank issues \$800,000 to the owner of a house *ex nihilo*. This act does nothing to increase the demand for money, so under simply supply and demand principles the money the bank issues must decline in value. It does not matter how well secured the funds are: if the supply of money increases in the face of constant demand, it must depreciate. Speculators will buy the depreciated money in the market and present them to the bank for redemption into gold at face value, earning the spread. The bank that made the loan must and will reduce its liabilities to protect its reserves because the bank directors and shareholders are (or, at least, used to be) personally liable for the debts of the bank. This tendency for excess notes to return to the issuing

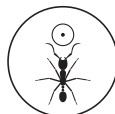
bank is called the law of reflux, and it operates wherever there is a free market in money, regulating bank credit naturally.²²

The reason the law of reflux does not operate in our system is because legal tender laws repeal it. Even in the case in which notes remain fully redeemable (or convertible) into gold, there is no reason to redeem a depreciated note when it can be passed at face value either to the government in the payment of taxes or to a private creditor. In this case, instead of excess notes depreciating and returning to the bank, they remain in circulation and push prices up and up and up until price signals prompt overcapacity, falling rents, and default.

The solution to the absurd credit excesses described above is not more regulation but to allow free markets to flourish, to remove the state-granted subsidies to the banking sector by abolishing too-big-to-fail, FDIC insurance, legal tender laws, and limited liability for bank directors. The banking lobby is far too powerful to allow any of this to happen, and so, as rates rise, the world waits for the end of the current credit cycle. The only question is whether the Fed can engineer another cycle after the next crash. Since this time the bad assets sit directly on central bank balance sheets, the end of this cycle may well be the end of the credit-super cycle that began in 1981 (or, by some measures, 1934).

Gold and gold miners do not do well in the upswing of a credit bubble, as has been detailed previously in these pages extensively. There is little industrial demand for gold whereas the frenetic construction of fixed capital places huge demands on industrial commodities, which soar in price, lowering gold mining margins. In the end, however, when the system liquidates, overcapacity causes the demand for additional fixed capital to plummet along with the value of industrial commodities. Gold, properly understood, is a bet (and gold miners an operationally levered bet) against the bubble—and a vote for the working man to receive his due.

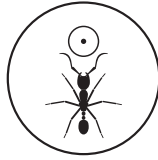
²² As Adam Smith put it: “Many people would immediately perceive that they had more of this paper than was necessary for transacting their business at home, and as they could not send it abroad, they would immediately demand payment of it from the banks. When this superfluous paper was converted into gold and silver, they could easily find a use for it by sending it abroad; but they could find none while it remained in the shape of paper. There would immediately, therefore, be a run upon the banks to the whole extent of this superfluous paper, and, if they showed any difficulty or backwardness in payment, to a much greater extent; the alarm which this would occasion necessarily increasing the run.”



MYRMIKAN CAPITAL LLC

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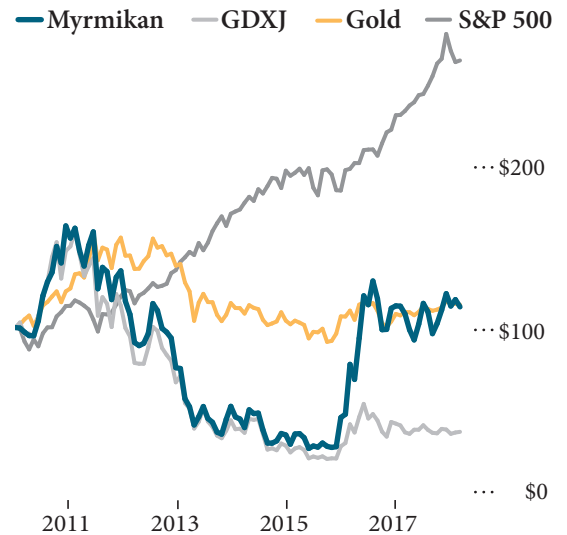
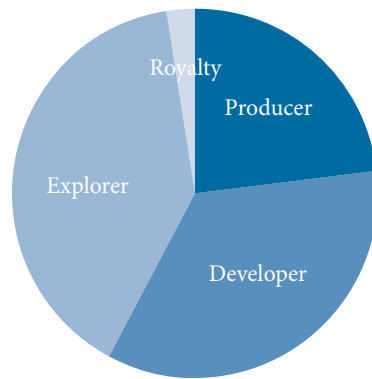
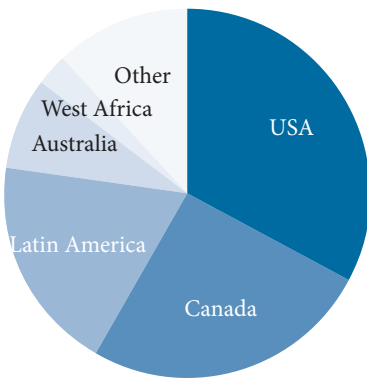
MYRMIKAN CAPITAL LLC

INVESTMENT PURPOSE

Myrmikan Gold Fund is designed to provide insurance against a global credit collapse through speculations in the equity of operationally levered gold mining companies. Any investment should be considered a premium, the value of which decays over time until and unless the insured event occurs. Investors should be prepared to lose substantially all of their investment should the insured event not occur. Please see the Confidential Offering Memorandum for additional details.

	ANNUALIZED: 3-YEAR	5-YEAR	ITD	ALPHA (ANNUAL)	BETA	SHARPE	POSITIONS	LARGEST	TOP 10
Myrmikan	46.9%	4.4%	1.5%	BENCHMARK		0.28	36	8.7%	53.3%
GDXJ	10.3%	-14.1%	-11.7%	1.7%	22.3%	1.11	73	5.1%	38.9%
S&P 500	10.1%	18.0%	12.7%	0.6%	7.2%	0.53	505	4.1%	21.2%

Portfolio Holdings Net Return of \$100



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YTD	ITD
2010				-0.3%	-2.5%	-2.2%	-0.1%	9.5%	14.7%	7.1%	4.5%	11.8%	49.3%	49.3%
2011	-6.7%	16.2%	-4.6%	3.9%	-8.5%	-6.4%	9.2%	5.5%	-21.9%	10.5%	-1.9%	-12.7%	-21.6%	17.1%
2012	11.6%	2.3%	-13.8%	-6.7%	-15.8%	-2.1%	1.5%	6.4%	18.9%	-3.8%	-9.78%	-2.3%	-16.7%	-2.8%
2013	-3.7%	-19.2%	-0.7%	-24.5%	-8.6%	-21.2%	11.9%	13.8%	-14.1%	-5.1%	-14.1%	-3.42%	-63.8%	-64.8%
2014	25.6%	17.9%	-12.3%	-2.9%	-11.6%	27.5%	-4.6%	0.6%	-21.3%	-21.2%	6.5%	-2.2%	-11.6%	-68.9%
2015	14.4%	-2.6%	-15.9%	21.2%	0.5%	-7.2%	-19.6%	5.6%	-2.6%	9.3%	-12.8%	-2.4%	-18.5%	-74.6%
2016	1.9%	74.8%	9.1%	57.2%	-11.8%	36.6%	27.6%	-4.6%	12.6%	-8.4%	-16.0%	0.2%	289.4%	-1.1%
2017	13.0%	1.3%	-0.1%	-4.2%	-8.9%	-6.0%	10.2%	12.3%	-4.4%	-12.2%	6.3%	8.1%	11.9%	10.7%
2018	8.9%	-6.2%	3.4%	-3.7%									1.7%	12.6%

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Performance data presented is as of April 30, 2018, is unaudited, is net of fees (with regards to Myrmikan), represents past performance, and does not guarantee future performance. The investment return and principal value of an investment will fluctuate and the member's interest, when withdrawn, may be worth more or less than original cost. The current performance may be lower or higher than the performance data quoted. The GDXJ represents the Market Vectors Junior Gold Miners ETF, which is marketed as a low-fee way for investors to gain exposure to junior gold mining equities. The S&P 500 acts as a benchmark for many investors.

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