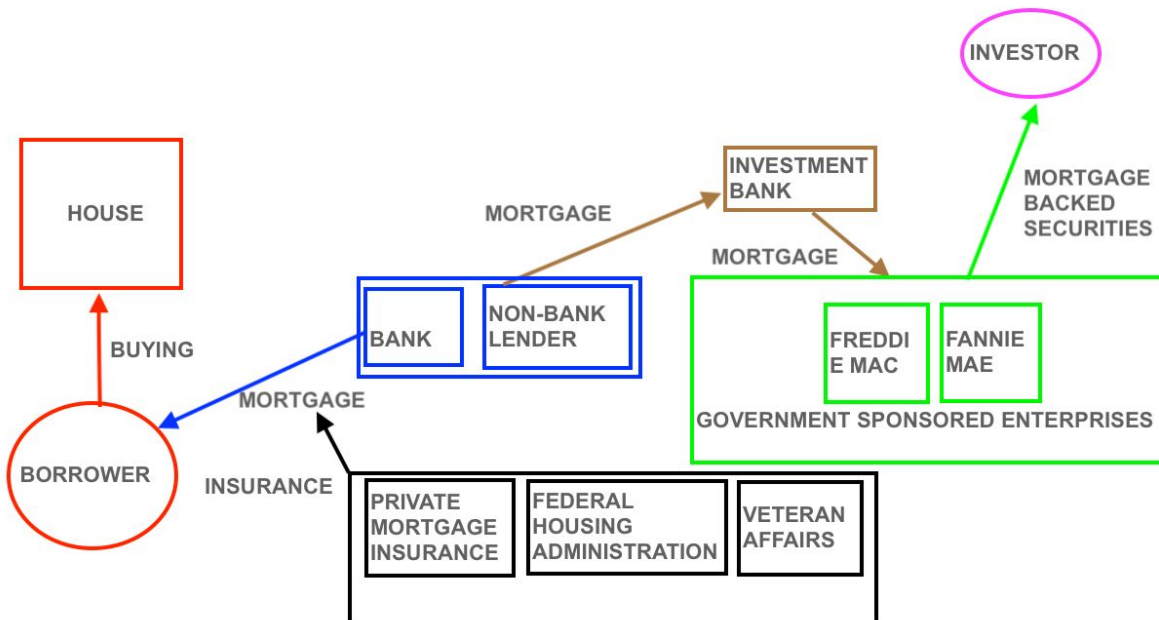


Private Mortgage Insurance Industry Analysis

The Private Mortgage Insurance (PMI) Industry currently has only six players, including two public companies. The industry is still recovering from the 2008 Financial Crisis and right now, we can see that the valuations on these stocks are quite cheap. The current pandemic and recession is making things worse for this industry in the short-term but if we focus on the long-term, they can be seen as a boon.

Let's first understand the different players in the mortgage industry then, we will focus on PMI.

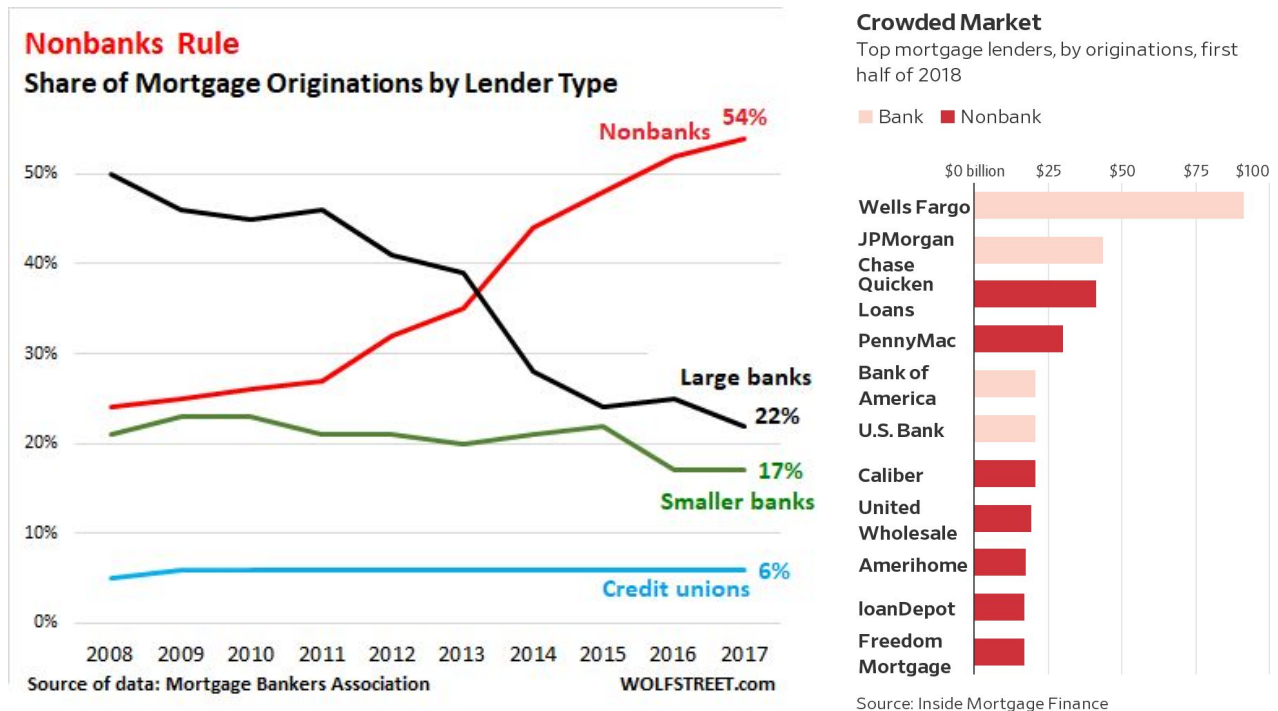


It looks complex and it is. That's why the whole system crashed in 2008. Today it is simpler than it was in 2008 and we will explain it in a simple story.



Warren wants to buy his first house for \$1 million but he has only \$150 000 in cash (15%). He needs to take a mortgage. This is not really a problem for him since mortgage rates are the lowest they have ever been. He's happy to take a 3% mortgage.

There are two options in front of him, go to a bank for a mortgage or go to a non-bank lender. Since the 2008 Financial crisis, the banks have been focusing more on mortgages for rich clients and have left the space for small clients to be dominated by non-bank lenders. This was a smart move since we all know how things got out of control in 2008.



Let's say Warren goes to Quicken Loans and they tell him that he's not eligible for a mortgage because he needs a minimum of 20% deposit and unfortunately, he only has 15% for deposit. This is not the end of his venture since he still has the option to take insurance on that mortgage.

Here's how mortgage insurance works.

Warren will take a \$850 000 mortgage (including insurance) with the \$150 000 he has in cash to buy a \$1 million house. Then, he will pay back his mortgage at a rate set by the lending institution plus he will need to pay back the insurance. Therefore, the mortgage rate of 3% that he was expecting is not happening. He is always going to pay a little more, let's say 5%. Once he repays the first \$50 000, his total mortgage will be 80% of the property value (in other words 20% deposit), he no longer needs to pay for mortgage insurance and only repay the rest of his mortgage, let's say at a rate of 4.50%. That 0.5% that he used to pay before, was on the insurance.

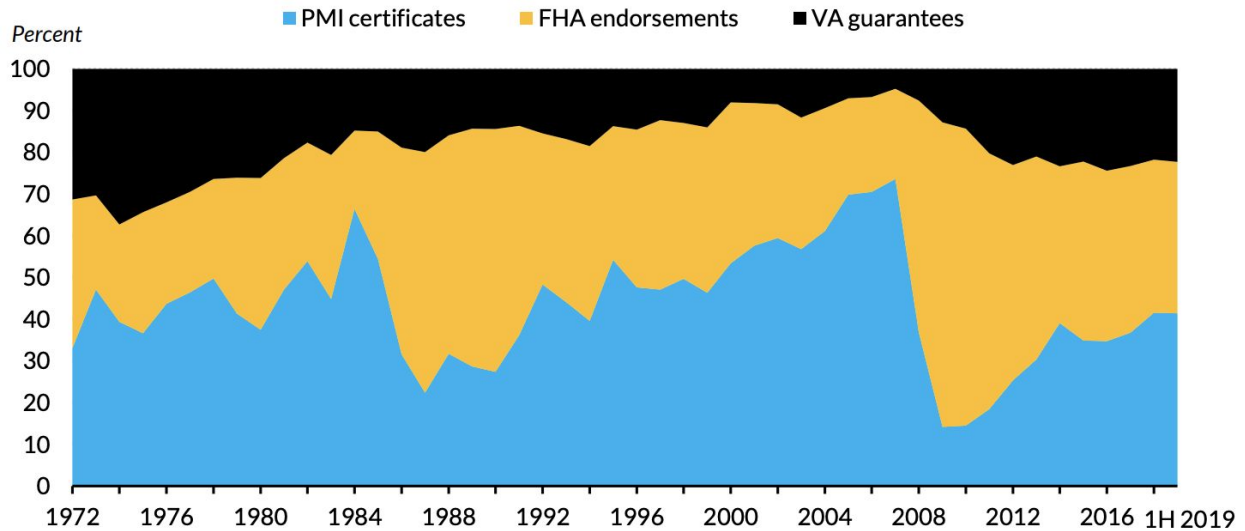
Warren can take this insurance from three different sources:

1. Federal Housing Administration (FHA)
2. Veteran Affairs (VA)

3. Private Mortgage Insurance (PMI)

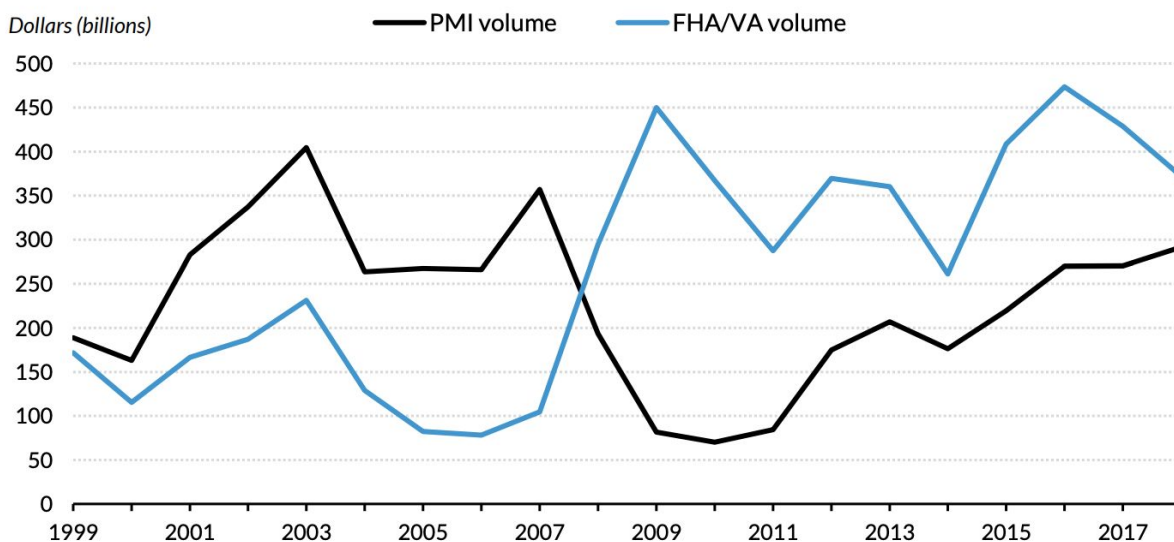
The FHA and VA are government agencies while the PMI are those 6 companies that I previously mentioned. Let's have a [look](#) at the market share in that industry.

Mortgage Insurance Market Share Based on Loan Count, 1972–1H 2019



We can see that in 2008, the PMI market share fell but now it is slowly recovering.

Annual Mortgage Insurance Volume: PMI versus FHA/VA



But the market is still dominated by the two governmental agencies which are still growing.

What's the difference between PMI, FHA and VA?

VA works only with veterans as the name suggests. Warren is not a veteran, therefore, he's not eligible for a VA mortgage insurance. As for FHA, they usually serve only poor people with low credit scores. Warren has a good credit score and for him, it would be better to use a PMI since they offer lower interest. The chart below from [Urban Wire](#) demonstrates that.

Initial Monthly Payment Comparison: FHA vs PMI

Assumptions	
Property Value	\$250,000
Loan Amount	\$237,500
LTV	95
Base Rate	
Conforming	4.36%
FHA	4.00%

FICO	620 - 639	640 - 659	660 - 679	680 - 699	700 - 719	720 - 739	740 - 759	760 +
FHA								
Upfront MI Premium	1.75%	1.75%	1.75%	1.75%	1.75%	1.75%	1.75%	1.75%
Annual MI Premium	1.30%	1.30%	1.30%	1.30%	1.30%	1.30%	1.30%	1.30%
PMI								
GSE AMDC & LLPA	3.50%	3.00%	2.50%	1.50%	1.25%	0.75%	0.50%	0.50%
Annual MI Premium	1.15%	1.15%	1.15%	0.89%	0.89%	0.62%	0.62%	0.54%
Monthly Payment								
FHA	\$1,411	\$1,411	\$1,411	\$1,411	\$1,411	\$1,411	\$1,411	\$1,411
PMI	\$1,511	\$1,497	\$1,482	\$1,402	\$1,395	\$1,327	\$1,320	\$1,305
PMI Advantage	(\$100)	(\$86)	(\$71)	\$9	\$16	\$84	\$91	\$106

Sources: Genworth Mortgage Insurance, Ginnie Mae and Urban Institute.

Let's say Warren has a credit score of 800, he is eligible for a 0.50% interest from a PMI. If he chose the FHA, his interest payment would be fixed at 1.75%.

Now, Warren has to choose from one of the six PMI.

In 2008, there were 8 of them, but 3 went bankrupt during the crisis, 3 more were formed and some merged among each other and today, [we have 6 PMI companies](#).

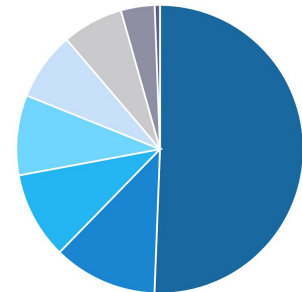
The Changing Face of the Private Mortgage Insurance Industry

	'05	'06	'07	'08	'09	'10	'11	'12	'13	'14	'15	'16	'17
MGIC	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Radian	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Genworth	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
UGC	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Acquired by Arch
CMG	✓	✓	✓	✓	✓	✓	✓	✓	✓	Acquired by Arch			
PMI	✓	✓	✓	✓	✓	✓	✓	a					
Republic	✓	✓	✓	✓	✓	✓	✓	Taken into receivership; stopped writing new business					
Triad	✓	✓	✓	✓	Parent filed for bankruptcy; stopped writing new business								
Essent MI						✓	✓	✓	✓	✓	✓	✓	✓
National MI									✓	✓	✓	✓	✓
Arch MI										✓	✓	✓	✓

The six players are MGIC, Radian, Genworth, Arch, National MI and Essent MI. All six of them are public companies and can be traded on various exchanges. We will talk about the stocks a little later. Currently Arch is the dominant PMI, with 12% of market share.

Private MI share nearly equals FHA

- FHA, 51%
- Arch, 12%
- Radian, 10%
- MGIC, 9%
- Genworth, 8%
- Essent, 7%
- National MI, 4%
- Run-off cos., 1%

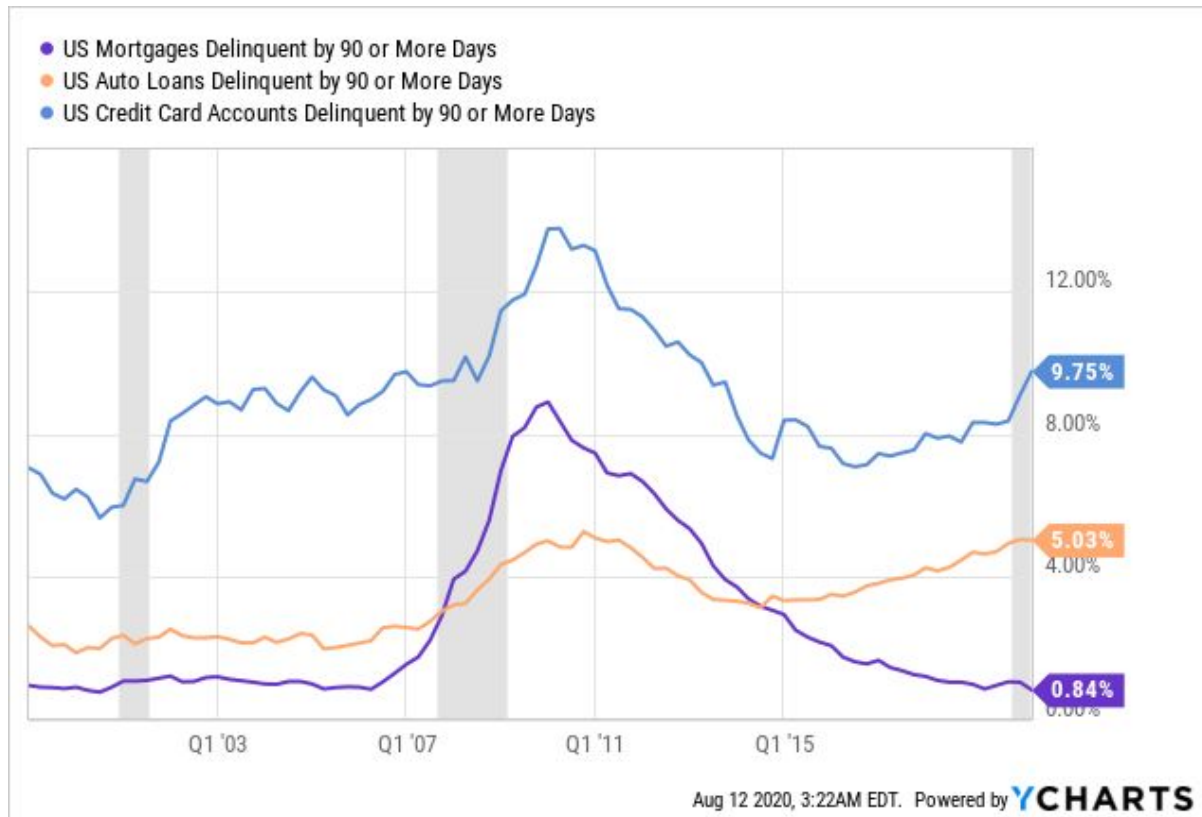


Note: As measured by insurance-in-force
Source: Keeffe, Bruyette & Woods

Let's say Warren chooses to go with Genworth. The mortgage will be created. It will be sold by the lending institution to an investment bank and then, the investment bank will sell them to one of the two Government Sponsored Enterprises (GSE), Fannie Mae or Freddie Mac. These GSE will bundle thousands of mortgages together and sell them as Mortgage-Backed securities (MBS). Investors will buy these MBS and will hold most of the risk of Warren's mortgage. Since yields are low on bonds and MBS have a good credit rating and are protected by the Federal government from default, investors like them.

What went wrong in 2008 was that these MBS were further bundled with other securities as Collateralized Debt Obligations (CDO) and these CDOs contained some bad debts but the credit ratings on them didn't change. Moreover, even the quality of the mortgages were going down as banks were giving mortgages to anyone. Around 2007, thousands of people defaulted on their mortgages and the whole system crashed. This is only a simple explanation, there were more players involved and it is much more complicated in reality.

Today, the rate of default on mortgages is quite low with a 90-day delinquency rate of less than 1%. This is much lower compared to credit card debt and auto loans.



Since we are looking at PMI today, what matters to us is how much of the [risk](#) do they hold.

Table 1: Credit Risk Share of First-Lien Single-Family Residential Mortgage Originations

First half of 2019

	Originations		Expected credit loss			Unexpected credit loss			Total credit loss		
	\$ tril	Share	Bps	\$ bil	Share	Bps	\$ bil	Share	Bps	\$ bil	Share
Total	0.931	100%	20	1.64	100%	301	23.3	100%	321	25.0	100%
GSEs	0.370	40%	12	0.25	15%	290	6.0	26%	302	6.3	25%
CRT	0.216	23%	10	0.22	13%	251	5.4	23%	261	5.6	23%
Non-CRT	0.154	16%	2	0.03	2%	39	0.6	3%	41	0.6	3%
Ginnie Mae (FHA/VA)	0.172	18%	55	0.95	58%	656	11.3	48%	711	12.2	49%
Portfolio	0.370	40%	5	0.19	11%	95	3.5	15%	100	3.7	15%
Private-label securities	0.019	2%	20	0.04	2%	141	0.3	1%	161	0.3	1%
Private MI	0.112		20	0.22	14%	200	2.2	10%	220	2.5	10%
GSE + Private MI					29%			35%			35%
Government: GSE Non-CRT + Ginnie Mae					60%			51%			51%

Notes:

Non-CRT credit risk on originations measures the risk on GSE originations not covered by CRTs.

Non-CRT credit risk on outstandings measures the risk on GSE UPB not covered by CRTs.

PMI credit risk is for coverage on GSE loans down to 80% LTV.

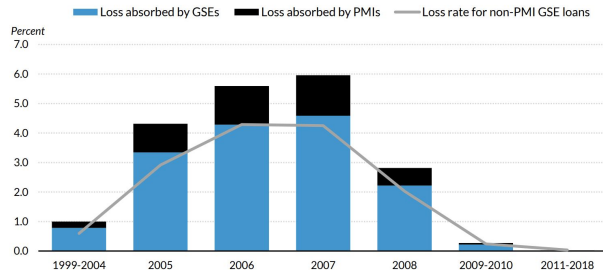
After-tax PMI return (100-bp premium, 6 bps G&A, 20 bps EL, 23% tax rate) is 12.6%.

Source: Moody's Analytics

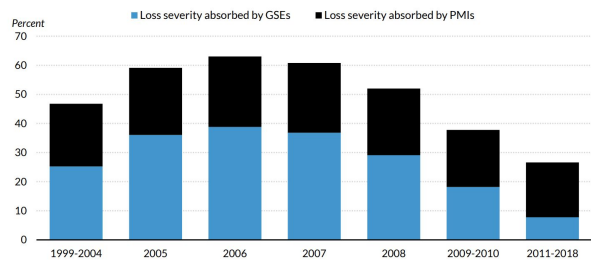
As we can see, the PMIs lowers the risk to the GSEs but at the same time, they hold much more risk than any of the different players. GSEs have 40% of market share but 25% of the credit

loss. PMIs hold less than 1% of market share with 10% of the credit loss. It is advantageous for the GSEs to have the PMIs take some of the risks away from them and if GSEs are going to be privatised again, this could be a boost to PMIs but will also increase the risks on them.

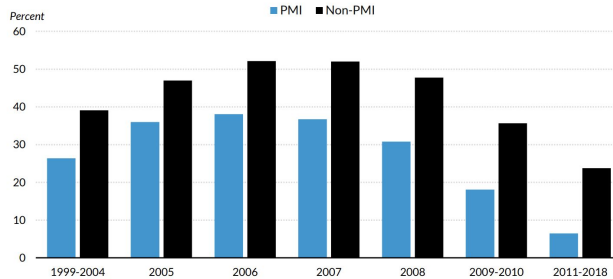
Loss Rate for GSE Loans



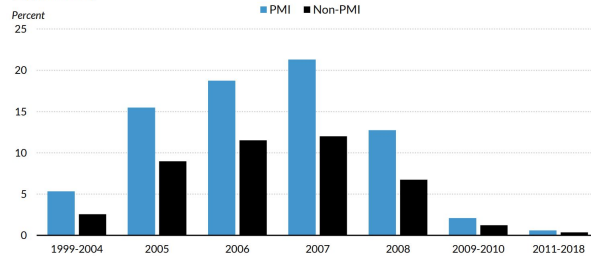
Reduction in GSE Loss Severity because of PMI



Loss Severity for GSE Loans with and without PMI



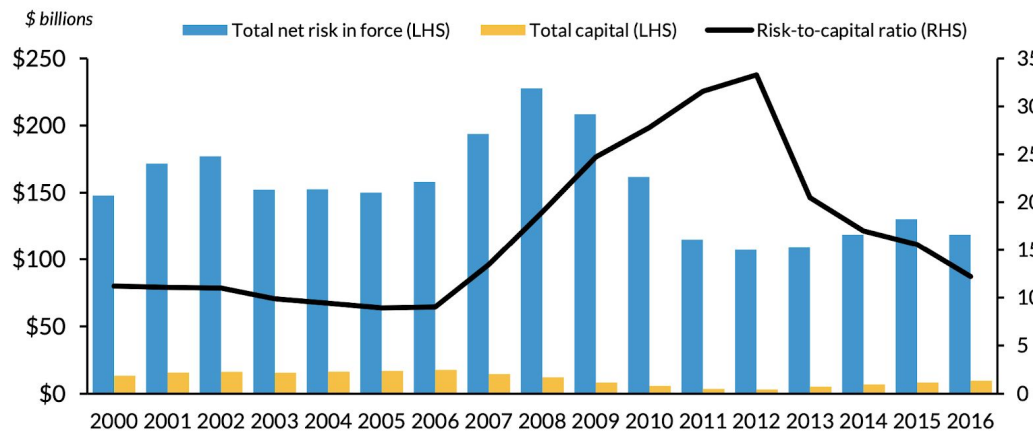
Historical Default Rates (D180+) for GSE Loans, by Origination Year (by loan count)



PMIs are certainly riskier than the government agencies but that doesn't tell us the full picture. It is to be expected that they are riskier than the government agencies. Even banks are riskier than government agencies, but how risky are they?

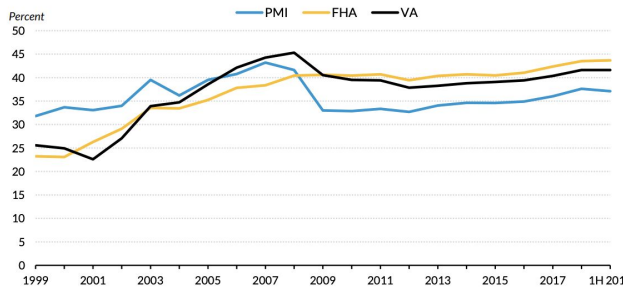
We can see in the four charts above that even if they absorb some of the risks of the GSEs, they are less risky than they were before the 2008 crisis.

Private Mortgage Insurance Industry Financial Safety Metrics, 2000-16

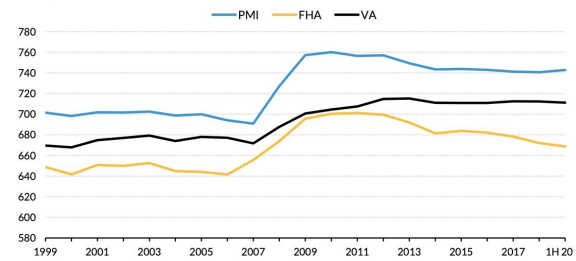


One of the main reasons why the risk is going down is that they are more careful with mortgages, they don't give it to anybody.

Average DTI Ratios: FHA, PMI, VA

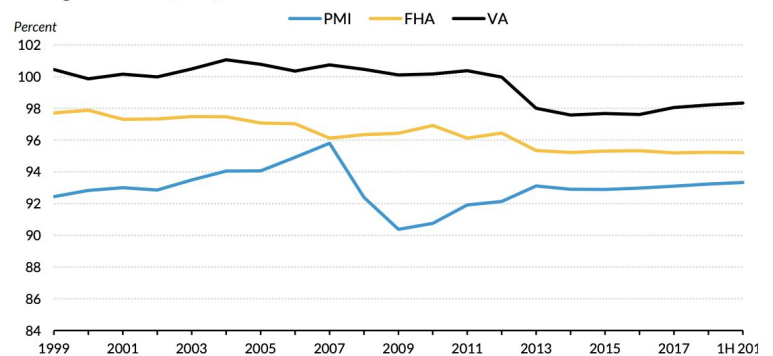


Average FICO Score: FHA, PMI, VA



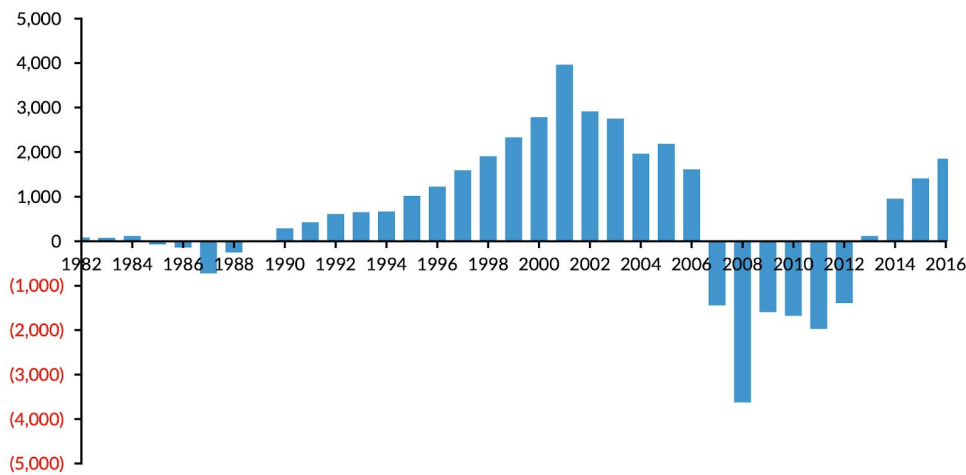
The Debt to Income Ratio (DTI) of PMIs is now about 38%, lower than for FHA and VA and lower than it was before the crisis. Even the average credit score is up and is much better than with FHA and VA. This means that the Loan to Value (LTV) of PMIs are lower than in the past at about 93%, with VA at 98%. In other words, on average on a \$1 million that Warren wanted to buy, he could expect up to \$930 000 in mortgage.

Average LTVs: FHA, PMI, VA



The industry, like we said, is still recovering from the crisis.

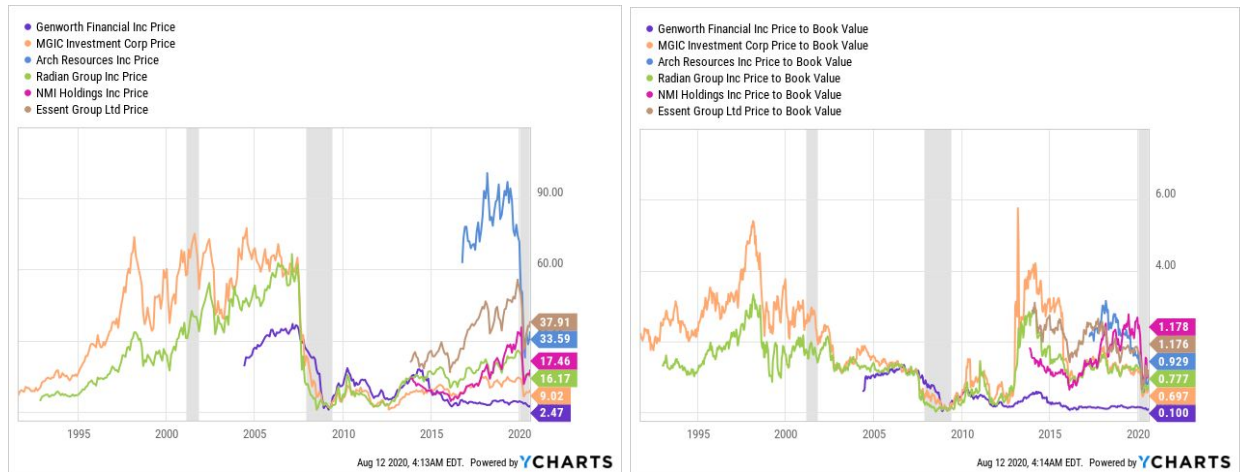
PMI Industry Historical Operating Income/(Loss), \$ Millions, 1982-2016



Will the industry continue to grow?

Mortgage rates are low, therefore, profit margins for that industry will be low, I don't think we should expect higher interest rates and consequently mortgage rates anytime soon. But if we do have higher inflation and the Fed decides to raise interest rates, this could be a good thing for the PMIs. This is unlikely to happen before 2030 but if we're focusing on the long-term, then this is a scenario we need to consider.

The pandemic has also been a boon to PMIs. How? Many people are now working from home and this is something that is set to continue even after the pandemic is over. It is advantageous to both the employees and employers. Who are these people who can work from home? Usually, they are people with a good job. Since rent in cities is increasing at a fast rate, these people would want to move to the suburb and rural areas to buy their first or even second home. These people are unlikely to qualify for VA and FHA and would likely need PMI. With the Fed making sure that there's plenty of money in the system along with low mortgage rates, you can be sure that the business of PMIs will be booming in the coming years.



The six PMI stocks are all underperforming and look quite cheap. We will need to look at each one of them separately since they are all different businesses. Some of them have life insurance businesses too. Genworth is likely to be acquired by a Chinese company. This is an industry where there's great business growth potential, the stocks are recovering and are profitable again and they look cheap.

Joshua Peery

12th of August 2020