

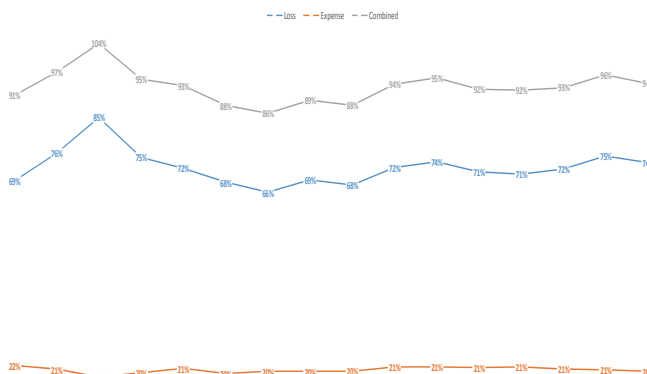
SINGULAR DILIGENCE



Progressive (PGR)

Progressive (NYSE: PGR)

Stock Price: \$26.86



	EV/Premiums	EV/Float	EV/Underwriting	EV/Owner
First Acceptance	0.71	1.09	24.55	8.62
Infinity	0.80	0.69	61.24	7.89
Mercury General	1.12	0.90	291.40	11.89
Safety Insurance	1.12	0.68	33.87	8.96
Direct Line	1.31	0.70	21.86	11.11
Minimum	0.71	0.68	21.86	7.89
Maximum	1.31	1.09	291.40	11.89
Median	1.12	0.70	33.87	8.96
Mean	1.01	0.81	86.58	9.69
Standard Deviation	0.25	0.18	115.55	1.72
Variation	24%	22%	133%	18%
Progressive	0.98	0.91	15.17	7.29

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Min	Max	Median	Mean	Standard Deviation	Variation
Sales	1,493	1,739	1,911	2,351	3,094	3,501	4,657	5,283	6,008	6,844	7,540	9,335	12,148	13,799	14,258	14,993	14,555	12,298	15,260	15,300	15,424	17,264	18,255	1,493	18,255	9,335	9,448	5,740	61%
Gross Profit	557	733	836	913	1,112	1,217	1,635	1,869	1,701	1,534	2,244	3,003	4,470	5,205	4,857	5,562	4,596	2,254	5,325	5,136	4,756	5,264	5,725	557	5,725	2,254	3,065	1,908	62%
EBITDA	109	312	389	390	505	550	728	769	444	264	773	1,181	2,300	2,648	2,189	2,821	1,777	-528	2,480	2,119	1,624	1,716	2,024	-528	2,821	773	1,199	955	80%
EBIT	81	288	373	371	485	526	691	713	372	187	692	1,097	2,211	2,549	2,097	2,717	1,670	-627	2,393	2,036	1,535	1,621	1,923	-627	2,717	713	1,130	935	83%
Receivables			346	462	596	735	991	1,309	1,609	1,664	1,532	1,620	1,911	2,183	2,394	2,499	2,447	2,402	2,432	2,597	2,834	3,057	3,247	346	3,247	1,911	1,851	867	47%
Inventory			3,037	3,447	3,910	4,512	5,257	5,850	6,402	7,044	7,911	9,551	11,758	13,251	14,184	14,998	14,891	13,950	14,338	15,850	16,602	17,147	18,331	3,037	18,331	11,758	10,582	5,149	49%
PP&E			198	268	323	356	445	598	733	803	815	841	932	1,048	1,151	1,309	1,421	1,419	1,387	1,357	1,347	1,357	1,388	198	1,421	932	928	432	47%
Working Liabilities			2,334	2,638	2,980	3,424	4,151	4,857	5,493	6,159	6,605	7,542	9,034	10,240	11,112	11,478	11,592	11,797	11,992	12,633	13,370	14,024	14,946	2,334	14,946	9,034	8,495	4,149	49%
Net Tangible Assets			1,248	1,539	1,849	2,178	2,542	2,900	3,251	3,351	3,653	4,470	5,566	6,242	6,616	7,329	7,167	5,974	6,166	7,170	7,414	7,536	8,021	1,248	8,021	5,566	4,866	2,290	47%
MARGINS																													
Gross Profit/Sales	37%	42%	44%	39%	36%	35%	35%	35%	28%	22%	30%	32%	37%	38%	34%	37%	32%	18%	35%	34%	31%	30%	31%	18%	44%	35%	34%	6%	0.17
EBITDA/Sales	7%	18%	20%	17%	16%	16%	15%	13%	7%	4%	10%	13%	19%	19%	15%	19%	12%	-4%	16%	14%	11%	10%	11%	-4%	20%	15%	13%	6%	0.44
EBIT/Sales	5%	17%	20%	16%	16%	15%	15%	13%	6%	3%	9%	12%	18%	18%	15%	18%	11%	-5%	16%	13%	10%	9%	11%	-5%	20%	13%	12%	6%	0.48
URNS																													
Sales/Receivables			5.52	5.09	5.19	4.76	4.70	4.04	3.73	4.11	4.92	5.76	6.36	6.32	5.96	6.00	5.95	5.12	6.28	5.89	5.44	5.65	5.62	3.73	6.36	5.52	5.35	0.76	14%
Sales/Inventory			0.63	0.68	0.79	0.78	0.89	0.90	0.94	0.97	0.95	0.98	1.03	1.04	1.01	1.00	0.98	0.88	1.06	0.97	0.93	1.01	1.00	0.63	1.06	0.97	0.92	0.12	13%
Sales/PPE			9.65	8.77	9.58	9.85	10.46	8.84	8.19	8.53	9.26	11.11	13.04	13.17	12.39	11.45	10.25	8.67	11.00	11.28	11.45	12.73	13.15	8.19	13.17	10.46	10.61	1.64	15%
Sales/NTA			1.53	1.53	1.67	1.61	1.83	1.82	1.85	2.04	2.06	2.09	2.18	2.21	2.16	2.05	2.03	2.06	2.48	2.13	2.08	2.29	2.28	1.53	2.48	2.06	2.00	0.26	13%
RETURNS																													
Gross Profit/NTA			67%	59%	60%	56%	64%	64%	52%	46%	61%	67%	80%	83%	73%	76%	64%	38%	86%	72%	64%	70%	71%	38%	86%	64%	66%	12%	0.18
EBITDA/NTA			31%	25%	27%	25%	29%	27%	14%	8%	21%	26%	41%	42%	33%	38%	25%	-9%	40%	30%	22%	23%	25%	-9%	42%	26%	26%	12%	0.45
EBIT/NTA			30%	24%	26%	24%	27%	25%	11%	6%	19%	25%	40%	41%	32%	37%	23%	-11%	39%	28%	21%	22%	24%	-11%	41%	25%	24%	12%	0.48
GROWTH																													
Sales	16%	10%	23%	32%	13%	33%	13%	14%	14%	10%	24%	30%	14%	3%	5%	-3%	-16%	24%	0%	1%	12%	6%	-16%	33%	13%	13%	12%	0.94	
Gross Profit	32%	14%	9%	22%	9%	34%	14%	-9%	-10%	46%	34%	49%	16%	-7%	15%	-17%	-51%	136%	-4%	-7%	11%	9%	-51%	136%	12%	16%	35%	2.23	
EBITDA	186%	25%	0%	29%	9%	32%	6%	-42%	-40%	192%	53%	95%	15%	-17%	29%	-37%	-130%	-569%	-15%	-23%	6%	18%	-569%	192%	7%	-8%	144%	-17.63	
EBIT	257%	30%	-1%	31%	9%	31%	3%	-48%	-50%	271%	59%	102%	15%	-18%	30%	-39%	-138%	-481%	-15%	-25%	6%	19%	-481%	271%	7%	2%	141%	66.04	
Receivables			22%	43%	20%	26%	41%	25%	21%	-11%	-4%	16%	19%	10%	9%	0%	-4%	1%	2%	12%	7%	9%	4%	-11%	43%	10%	13%	14%	1.12
Inventory			15%	12%	15%	16%	17%	6%	12%	8%	16%	25%	22%	5%	9%	3%	-4%	-9%	15%	7%	3%	4%	10%	-9%	25%	10%	10%	8%	0.82
PP&E			40%	32%	12%	8%	41%	30%	17%	3%	0%	6%	15%	10%	10%	18%	1%	-1%	-3%	-1%	0%	2%	3%	-3%	41%	8%	11%	14%	1.18
Working Liabilities			13%	13%	13%	17%	25%	11%	15%	9%	5%	23%	17%	10%	7%	0%	2%	1%	2%	8%	3%	6%	7%	0%	25%	9%	10%	7%	0.69
Net Tangible Assets			25%	22%	19%	17%	16%	12%	12%	-5%	24%	21%	27%	0%	12%	10%	-13%	-21%	33%	4%	3%	0%	13%	-21%	33%	12%	11%	14%	1.23

SINGULAR DILIGENCE

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DURABILITY	2
MOAT	4
QUALITY	6
CAPITAL ALLOCATION	7
VALUE	9
GROWTH	11
MISJUDGMENT	12
CONCLUSION	14
ABOUT THE TEAM	17

US auto insurer, Progressive (NYSE: PGR) combines a number one independent agent business with a number three direct business.

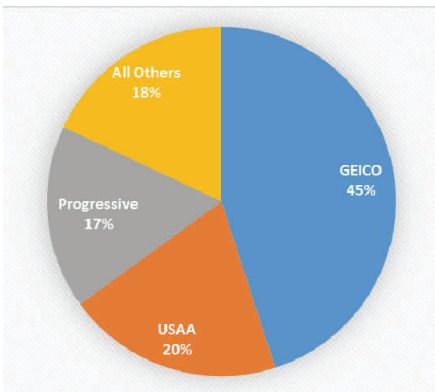
OVERVIEW

Progressive is a U.S. auto insurer. Personal auto insurance accounts for about 90% of the company's business. Auto insurance in the U.S. is generally sold in one of 3 ways: 1) Through independent agents 2) Through captive agents 3) Directly on the internet and by phone. The first channel – independent agents – is usually the most expensive. Insurers that rely solely on independent agents tend to have the highest cost structures because they must pay these independent agents – who often sell policies from up to 13 different insurers – the highest commissions. Progressive sells more auto insurance policies through independent agents than any other insurer. The company has a 14.4% share of policies sold through independent agents. Some examples of smaller competitors in this space are Travelers (5.9% market share), Nationwide (5.8%), Liberty Mutual (5.5%), Mercury (3.7%), and Erie (3.6%). Many of the same

independent agents that sell policies for Progressive also sell policies for these insurers. The independent agent business works mostly like a price auction where the lowest bidder wins. A driver who wants auto insurance goes to an independent agent who often sells policies on behalf of a dozen different insurers. The agent enters the customer's personal information and gets quotes from all the insurers. Independent agents do not always steer their customers to the lowest price. They have some incentives not to. Progressive pays independent agents a 10% commission. Competitors often pay a 15% commission. Some competitors pay their independent agents commissions as high as 17% to 20%. Insurers also advertise. The total policy acquisition cost of an insurer depends on how much they spend in advertising, the commissions they pay to agents, and the amount of direct business (which has no commissions) they write. Because 45% of Progressive's business is direct (through Progressive.com and by phone) and because Progressive pays lower commissions to independent agents than its competitors do – Progressive has one of the lowest policy acquisition costs in the industry.

Progressive's total policy acquisition cost—commissions and other acquisition costs plus all advertising expenses – is 12.1% of premiums. Allstate's total policy acquisition cost is 16.4% of premiums. Travelers's is 17.6%. Encompass's is 18.7%. And Mercury's is 19.5%. Allstate uses captive agents. So Allstate is able to pay a low commission rate like Progressive. However, Allstate must still spend on advertising to promote its brand and drive business to those captive agents. Allstate spends 2.8% of sales on advertising. Allstate's marketing is less efficient than Progressive's because Allstate does not have a direct business. Progressive uses the same brand name with the same advertising to promote both its direct and independent agent business. To keep its captive agents happy, Allstate cannot pursue a direct business. A direct business would cannibalize sales from agents. This is why most auto insurers have been unable to create thriving direct businesses.

Unlike the highly fragmented independent agent channel – where the leader, Progressive, has just a 14.4% market share – the direct channel is extremely consolidated. Just 3 companies account for the vast majority (82%) of all direct auto insurance. GEICO has a 45% market share. USAA – which sells to current and former U.S. military personnel and their families – has a 20% share. Progressive has a 17% share of the direct market. Since they began selling policies over the internet, GEICO and Progressive have grown their market share of the overall auto insurance business very quickly. In 1998, GEICO had a 3.5% market share. By 2012, it had 9.7%. In 1998, Progressive had a 4.2% market share. In 2012, it had 8.4%. GEICO is a better business than Progressive because all of GEICO's business is direct. However, Progressive has competitive advantages in both the independent agent channel and the direct



GEICO, USAA, and Progressive sell 82% of all U.S. direct auto insurance

channel. The independent agent channel is an inferior way of selling auto insurance because paying commissions to agents instead of simply advertising a brand directly to consumers is actually more costly per dollar of premiums generated. For this reason, direct auto insurers like GEICO, Progressive's direct business, and USAA have a cost advantage over companies that pay commissions to captive or independent agents. Progressive's independent agent business has lower policy acquisition costs – and therefore a lower expense ratio – than its competitors in that channel. However, Progressive's overall policy acquisition cost – and therefore its total expense ratio – is higher than GEICO because GEICO sells all of its policies directly. GEICO has a 17.2% expense ratio versus 20.5% for Progressive. Both companies have much lower expenses than other auto insurers like Mercury (27.2%), California State Auto (29.6%), and Safety (31.0%). Their lower expense ratios are not an accident. GEICO has always been focused on achieving the lowest possible expense ratio. Progressive has been focused on lowering costs for the last 26 years of its history.

Progressive did not begin life as a low cost insurer. Unlike GEICO, Progressive began as a company that sold its insurance through agents instead of directly. Progressive was founded in 1937. The company did not differentiate itself from competitors until the 1950s. Peter Lewis – a son of one of the company's co-founders – created Progressive Casualty Company in 1956 to write auto insurance for high risk drivers. High risk – or “non-standard” – policies are written to cover drivers with a history of having lots of accidents. Some of these drivers have substance abuse problems. Peter Lewis focused on this niche when Progressive went public in 1971. Throughout the 1970s and 1980s, non-standard auto insurance was a very fast growing and very profitable business. From 1978 through 2014, Progressive's share price increased 13% a year. The company also paid

plenty of dividends. During the 34 years Peter Lewis ran Progressive, premiums grew at a pace of 14% a year. Progressive achieved this growth with much better profits than the auto insurance industry overall. From 1970 to 1992, Progressive had an average combined ratio of 97. That means the company made 3 cents in underwriting profit (profit before investment income) for every dollar of premiums it took in from policyholders. Meanwhile, during those same 22 years, the auto insurance industry as a whole had a combined ratio of 107. That means the industry had an underwriting loss of 7 cents for every dollar of premiums it took in from policyholders. The only way these companies managed to be profitable was by investing their “float” – money collected from policyholders but not yet paid out in losses – in a way that yielded more than 7% a year. Throughout its entire history, Progressive has generated profits from its underwriting alone. The company's return on premiums has been driven by about a 6.5% underwriting profit and a 5.5% investment yield on its float so that it makes about 13 cents for every dollar of premiums it takes in. Only GEICO has a similar history of profitability.

From its founding until about 1988, Progressive focused on achieving a low loss ratio instead of a low expense ratio. To do this, the company needed to more accurately predict losses on specific drivers than competitors could. In its niche of high risk drivers, Progressive was consistently able to do this. The company invested in data collection and analysis starting in the 1950s. It was the first auto insurer to quote at different prices depending on: the model of car, the driver's credit report, and usage statistics (electronic monitoring of braking, acceleration, lane changing, and speed). Competition in non-standard auto insurance increased in the late 1980s. So, Progressive changed its strategy. In 1988, Progressive had an expense ratio of 33.2% versus 24.1% at Allstate (who paid its captive agents less than other insurers paid independent agents). Progressive focused on cost reduction to close that gap. By 1994, Progressive had lowered its expense ratio to 22.4% versus 23.6% at Allstate. In the 20 years since, Progressive has maintained its position as a low cost operator. Progressive copied GEICO in 1994 by creating 1-800-AUTO-PRO. In 1997, Progressive became the first company to sell auto insurance over the internet. Today, Progressive's direct business accounts for 45% of sales.

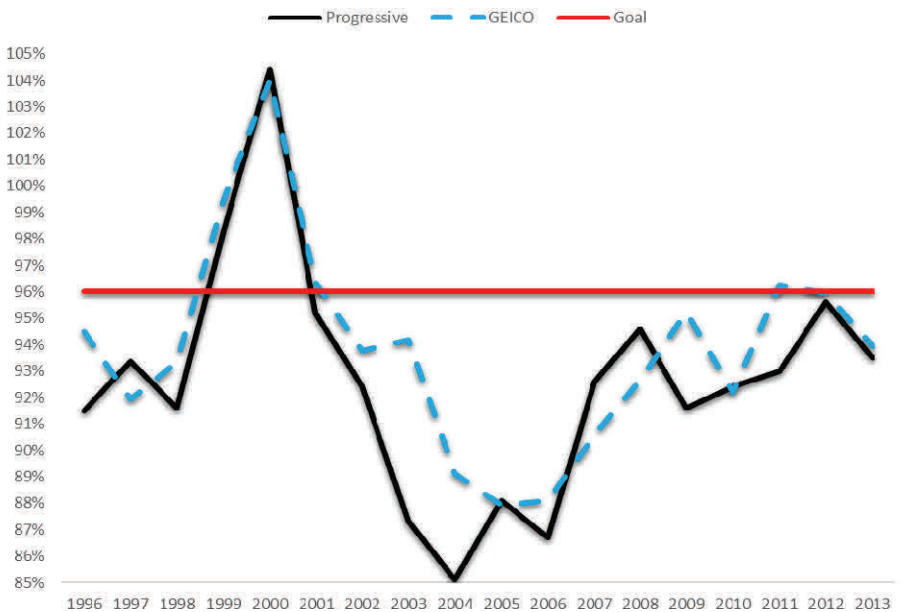
DURABILITY: *Progressive's Focus on a Combined Ratio of 96 or Lower Makes it Durable*

Auto insurance is a durable industry. The only risk of obsolescence is driverless cars. Car accidents are caused by human error. If all cars on the road were driven by computers – there would be virtually no car accidents. This would eliminate the need for auto insurance. The technical difficulties of developing driverless cars are not the biggest obstacle to their adoption. Even much simpler safety technologies like front air bags, side air bags, electronic stability control, and forward collision avoidance generally took 10 years from the time they were first introduced on a car sold to the public till the majority of new models sold in a given year included these features. So, the “tipping point” of safety feature adoption by manufacturers is usually around a decade. Complete adoption takes about 15 years. The average car in the U.S. is about 11 years old. This number has increased over time. Cars are more durable now than they were in the past. Based on these figures, it is likely that once the first driverless car is introduced by a major auto maker on a popular model it will take another 15 to 20 years before half of all cars are driverless.

Auto insurance is required by state law. States will certainly not eliminate this requirement while the majority of cars are still driven by humans. Total adoption of the technology could take up to 30 years. If enough car owners prefer to drive themselves instead of letting a computer drive their car for

them, there could be resistance to any laws limiting human drivers. Without such laws, highways would include a mix of human and computer driven cars. Under such conditions, laws might still equally “fault” driverless cars for accidents involving human drivers. These legal complications mean that auto insurance would probably persist into the early stages of a mostly driverless car society. Today, there are no commercially available driverless cars. So, the end of car insurance would likely be some point 15 to 30 years after the successful introduction of driverless cars. The vast majority of net present value in a stock comes from returns generated within the first 30 years. Even if driverless cars are successfully introduced in the U.S. soon – and that is a completely speculative assumption – it is very likely that auto insurance will persist as a legal requirement for car owners for at least the next 15 to 30 years. So, even if the eventual adoption of driverless cars is a certainty – the durability of car insurers as a long-term investment is still sufficient to generate good returns for today’s investors. The shift to a driverless society is far enough in the future to justify an investment in Progressive right now.

The greatest risk to Progressive’s durability is underwriting error. Progressive writes more insurance – assumes the risk of more losses – relative to its surplus (the capital buffer available to absorb losses) than other auto insurers. One way of judging the underwriting leverage of an insurer is to look at its premiums relative to its equity plus debt (its capital). Progressive writes 2 times its capital in premiums. First Acceptance writes at 1.7 times. Infinity at 1.4 times, Mercury at 1.3 times, Safety at just 1 times, while other insurers – with large non-auto businesses – like Travelers and Chubb write at well below their capital. Underwriting leverage is only a problem when an insurer’s combined ratio – its losses and expenses divided by its premiums – exceeds 100. Companies with underwriting losses in a normal year



Since 1996, PGR (92.6) and GEICO (93.9) have averaged similar combined ratios

must be very careful not to write too much insurance relative to the capital that can absorb those losses.

To understand the risk in Progressive, it is critical to understand the concept of a combined ratio. Insurers generate a “return on sales” (sales are called premiums in the insurance industry) in two ways. One: the policyholder pays more to the insurer than the insurer pays out in corporate expenses, commissions, advertising, and losses. Two: the insurer makes money by investing the premiums paid upfront by its policyholders in securities like common stocks, preferred stock, corporate bonds, municipal bonds, and federal government debt. Different insurers try to make their money in different ways. Historically, Progressive has generated more than half of its return on sales from its underwriting. This is unusual. In a normal year, the average insurer loses money on its underwriting. But it more than makes up for that by investing its float. Progressive earns a lot from underwriting relative to other insurers. It earns little from investing. And Progressive takes much less investment risk than other insurers. In 2013, Progressive was 75% in bonds and these bonds were actually short-term government debt due in 2 years or less. In the last 20 years, Progressive’s only major investment loss – when the company had more losses than gains on investments for the year – was during the 2008 financial crisis. Progressive held preferred stock in big banks. The company marked these securities to market. Progressive did not realize actual losses on the preferred stock. After the banks were bailed out, they continued to make payments on their preferred stock and these securities rebounded fully in value in the years since. Given today’s conservative investment policy, the investing side of Progressive’s business does not present any risks to the company’s survival even under crisis conditions worse than 2008.

All of the long-term risk in Progressive comes from the underwriting side. Because Progressive takes in double its capital base in premiums each year, any underwriting loss would lead to a hit double that magnitude relative to capital. For example, in 1991 and 2000 Progressive had a combined ratio of about 105. This means the company had an underwriting loss equal to 5% of its sales. Because sales are twice capital, the company lost about 10% of its capital in each of those years. Obviously, investment gains offset some of this loss. Progressive maintains a ratio of debt to total capital of about 25% to 30%. When debt is 30% of total capital, a 10% destruction of capital causes a

14% destruction of equity ($10\% / 0.7 = 14.3\%$). This is because debt only absorbs losses after all of a company's equity has been impaired. Shareholders should focus on the amount of underwriting losses relative to equity that Progressive can cause in any one year. Assuming premiums are double capital and equity is 70% of capital, it would take a combined ratio of 112 to destroy a third of Progressive's equity ($12\% * 2 = 24\%$; $24\%/0.7 = 34\%$). Theoretically, it is not difficult to imagine a scenario where Progressive's underwriting loss forced the company to raise capital by issuing stock and diluting its shareholders.

In practice, Progressive's culture minimizes the risk of large underwriting losses relative to the company's capital cushion. Progressive has a 96% combined ratio target. It has been remarkably consistent in averaging a combined ratio below this target. Since 1991, the company's average combined ratio was 92.6%. In the last 20 years, the average was 92.3%. In the last 15: 92.6%. In the last 10 years: 92.5%. And over the last 5 years: 93%.

Since 1991, Progressive has failed to hit its 96 combined ratio 4 times. The company's combined ratio was 103.6 in 1991, 96.5 in 1992, 98.3 in 1999, and 104.4 in 2000. Progressive has yet to miss its 96 combined ratio since the turn of the millennium. Some of this consistency in underwriting may be due to pricing data. Progressive updates its prices faster than any other auto insurer. It is usually the first company to raise prices.

The most important element in Progressive's combined ratio is not competence. It is culture. The company never changes its stated goal of growing as fast as possible while keeping a combined ratio of 96. It has always said that any growth above a combined ratio of 96 must be avoided.

Here is what Progressive's CFO said about the 96 combined ratio target in 2013: "(We) often get asked the

question, 'Would you consider changing your 96 combined ratio target?' Certainly, in the most recent environment with lower interest rates, would we consider changing the combined ratio target? The simple answer to that is no. We feel that it served us well in a number of cycles, with economic cycles, (and) underwriting cycles. And for us it creates a good balance between attractive margins and competitive rates for customers. It's important that we meet those profitability targets because we are more leveraged to underwriting results...At the end of last year, our premium to equity was close to 2.7 to 1. A peer set of other...companies...were closer to 1 to 1...This combination of disciplined underwriting, ensuring we meet our profit targets, and leverage the underwriting results is how we create good returns for shareholders."

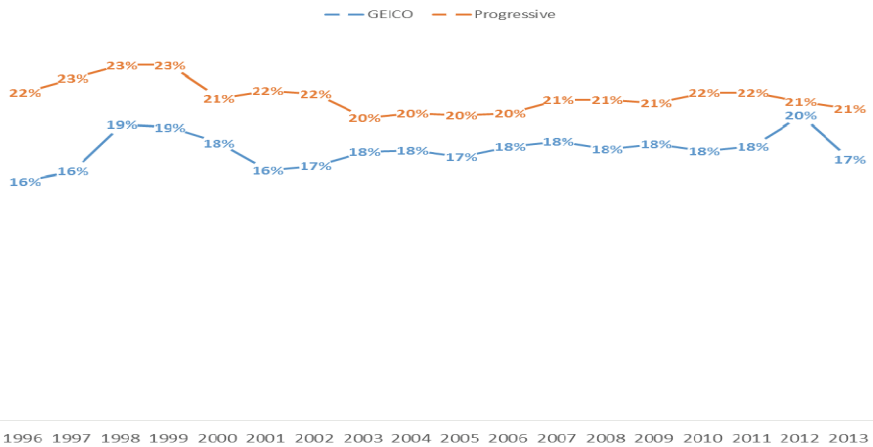
MOAT: *Progressive is the #2 Low Cost Operator behind GEICO*

Competition in the auto insurance business is based on: price, brand awareness, and an agent's advice. In the direct channel, customers select a policy for themselves by going to the website of a brand they recognize and believe will have a low enough price. For most Americans who choose to buy their auto insurance on the internet there are two choices: GEICO or Progressive. In 2013, Progressive spent \$613 million on advertising. GEICO spent \$1.1 billion. Despite spending 80% more on advertising, GEICO's advertising as a percent of premiums was just 6.5% versus 9% for Progressive. GEICO has the widest moat in the auto insurance business. Over time, both GEICO and Progressive will increase their market share. GEICO will always have more market share than Progressive, because GEICO can always spend more in total on its advertising while actually spending less per policy acquired. GEICO's existing policyholder base consists entirely of direct business. GEICO does not pay any commissions to any agents to sell its insurance. GEICO also has more preferred risk drivers than Progressive. Preferred risk drivers have higher retention rates than non-standard risk drivers. GEICO's history was in preferred risk while Progressive's was in non-standard. Over time, the company's policyholder bases will converge to a more varied mix of customers acquired directly through their websites. Until that happens, GEICO will always have a higher retention rate. The combination of bigger scale in the direct business and a higher retention rate (GEICO can retain 90% of its customers from year to year while Progressive retains just 80%) means that GEICO can pay less per dollar of premiums it collects in advertising and still expose the public to more ads than Progressive does. This historical lead on Progressive will never close as long as GEICO advertises aggressively. GEICO will have the widest moat in auto insurance forever. Progressive has no competitive advantages versus GEICO. However, Progressive has competitive advantages versus all insurers except GEICO. Over time, Progressive's lead over these other insurers will grow and their cost advantage due to fixed investment and advertising will grow. The internet actually increased the barriers to entry in auto insurance because it allowed for the growth of giant direct insurer brands like GEICO and Progressive. The competitive playing field was always more level in the independent agent channel than it will ever be in the online channel.

Both GEICO and Progressive's cost advantage over other insurers is bigger than it appears to be. GEICO and Progressive are generally considered to have the lowest or among the lowest prices in auto insurance. The industry's combined ratio is often around 100. GEICO and Progressive's combined ratio is often around 90. That means they both charge less and make more than their competitors. GEICO is not promoted by agents. And independent agents report that they sometimes try to steer customers away from Progressive whenever Progressive's quote is not far below another insurer's quote for that client. Despite paying the lowest commissions to agents, Progressive has

grown its independent agent business faster than competitors who pay agents more. Independent agents report this is because customers who come to them recognize the Progressive name from TV ads. Most agents claim Progressive is the easiest insurance brand to sell customers on. This is important because conversion rates when a customer visits an agent are worse than conversion rates on GEICO and Progressive's website (customers only visit the site when they know this is the brand they want and they are ready to switch now). Progressive also has the best systems for agents to use. Progressive sells more insurance through independent agents than other insurers so it has certain scale advantages in providing technology to support those independent agents.

Since Progressive and GEICO started selling auto insurance online in the 1990s, new entrants have failed to make money online. There are several reasons for this. One, existing insurance companies who have captive agents or sell through direct agents are reluctant to sell online because their agents rebel against the move. Progressive made the switch because it already offered agents the lowest commissions and agents have fewer choices they can steer a non-standard driver toward. Basically, Progressive's relationship with its independent agents had always been more adversarial. Even agents who sell a lot of Progressive policies claim the company is their brand of last resort. But they are unable to sell other policies to a customer if Progressive's quote is much lower than other options or if other insurers the customer recognizes refuse to cover the non-standard driver. Progressive has always been willing to cover more drivers at lower prices than other insurers. So, even when an agent could make a 15% commission selling another insurer they end up making 10% on a Progressive policy because they never want to turn a customer away. Progressive does have lower retention rates than other insurers. This could be due to having



PGR spends 3.5 cents more on expenses per dollar of premiums than GEICO

more non-standard (and especially younger drivers) in their base of existing policyholders. Some agents claim it is due to them “shopping” for a higher commission when a policy comes up for renewal. The vast majority (between 80% and 90%) of auto policies are simply renewed with the same insurer every year. Independent agents rarely shop for a lower price for their clients each year because neither the client nor the agent wants the hassle of switching insurers for a slightly lower price. However, agents may try to move a client from Progressive (which pays just a 10% commission) to an insurer that pays a 15% commission because this is equivalent to a 50% pay raise for the agent. Whether this has a meaningful influence on Progressive's independent agent business or not is difficult to prove. Progressive has a lower retention rate in its independent channel than other insurers do. But Progressive's peers insurer drivers who are more likely to renew. The mix of Progressive's drivers up for renewal seems to be a much larger influence on retention rates than agents seeking higher commissions.

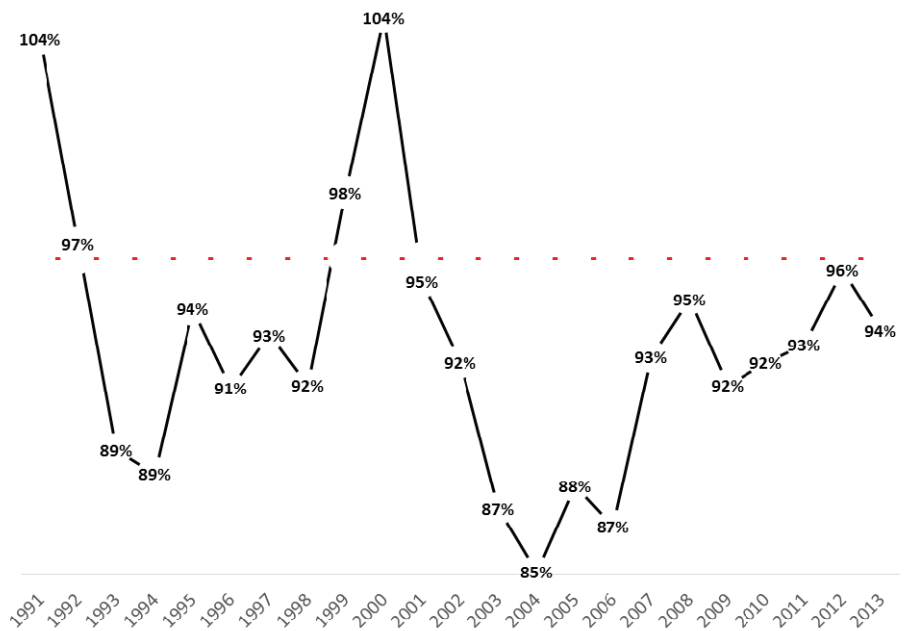
Progressive's 3 disadvantages in growing market share versus competitors are: 1) Insistence on a 96 combined ratio 2) lower retention rate 3) lower agent commissions. Competitors often target a 100 combined ratio. So, competitors are willing to price 4% below Progressive for taking the same risk. In practice, both Progressive and GEICO have consistently taken market share from competitors with higher combined ratios while offering lower prices. It is likely that both GEICO and Progressive are at least 4% better at underwriting than their competitors. The evidence for this is that they generally have lower prices but do not have higher loss ratios. Progressive's lower retention rate is a real disadvantage versus competitors. However, this is not a disadvantage in acquiring new business. The retention rate is mostly driven by the specific driver's tendency to look for a new insurer from time to time. If Allstate attracted the same drivers that Progressive does, it is likely their retention rate would be as low as Progressive's. Finally, lower agent commissions are an impediment to sales growth in the independent agent channel. However, Progressive has gained market share in this channel over time. Even in the independent agent channel, Progressive's low cost, high brand awareness, and superior technology platform have been enough to overcome the financial disincentive agents have to sell Progressive insurance. A Progressive policy is usually the least profitable policy an independent agent can sell. Nevertheless, independent agents have tended to increase the proportion of Progressive policies they sell over time. This shifts profits away from independent agents and toward both Progressive and policyholders. Progressive gets to have a lower expense ratio while policyholders get cheaper insurance.

There is no reason to believe Progressive will ever have as wide a moat as GEICO. However, GEICO and Progressive have big advantages versus all other competitors. Progressive's CEO estimates that about half of all drivers

who are truly new to the insurance market go with GEICO or Progressive. The two companies combined have just a 20% market share in the industry but a 50% share of new business. Given decades, there is no reason their market share will not more than double. Warren Buffett said it best in 2003: “They (Progressive) and we (GEICO) have the strongest systems long-term.”

QUALITY: *Progressive’s Quality Comes from Its Ability to Generate an Underwriting Profit in Almost All Years*

Progressive is the second highest quality business in the U.S. car insurance industry. GEICO is the first. Progressive and GEICO are the only two U.S. car insurers that have consistently gained market share over the last couple decades. Progressive acquires more new customers than any other competitor. Together, Progressive and GEICO get over 50% of truly new – first time car insurance buyer – business. Progressive’s CEO repeated this fact in 2013: “I’ve said before, between GEICO and ourselves, we capture a very significant part of the new market, the new business marketplace, somewhere over 50% of that.” Progressive is especially strong in attracting young drivers. However, Progressive has a much lower retention rate than car insurers generally. The average U.S. car insurer retains 90% of their business from year-to-year. In other words, there is a 50% chance that a new customer acquired today will still have their car insurance policy with the same insurer at the start of 2021. Retention is very high because 77% of insured drivers do not make any attempt to look for a new provider each year. They do not seek new quotes, visit an agent, or do any online searches for cheaper policy choices. Only 23% of insured drivers actually make an effort to seek out possible substitutes for their existing insurer. Most (55%) of those drivers who do seek out different options ultimately stick with their existing



Progressive’s combined ratio was below 100 in 21 of the last 23 years (91% of the time)

provider. So, only 23% of drivers look for a new insurer in a given year. And only 10% of drivers actually make the switch. Drivers are most likely to switch after a negative claims experience. So, drivers who have more accidents will have more claims and will therefore have a greater chance of a poor claims experience with their insurer. Customers who bundle multiple policies – homeowners and auto, renter’s insurance and auto, etc. – are more likely to stay with their existing insurer. As with most services there is a tendency for older, wealthier, and married customers to make fewer changes than younger, poorer, and single customers.

Preferred policies have higher retention than standard policies and much higher retention than non-standard policies. Progressive started as a non-standard insurer. GEICO started as a preferred insurer. In 1994, Progressive’s client base was 94% non-standard. By 2001, GEICO’s client base was still 81% preferred. As both companies grew their direct sales on the internet their mix of business shifted away from their original focus and toward a more representative sample of the entire pool of U.S. drivers. Progressive’s direct channel is not as focused as their independent agent channel. Progressive gets 15% of all non-standard policies sold through independent agents but only 5% of all preferred policies sold through agents. There are several reasons for this. One of the biggest is that Progressive has long paid the lowest commissions in the industry. Many insurers are willing to provide a quote for preferred (“low risk”) drivers. Many insurers are also willing to provide a quote for standard (“normal risk”) drivers. Fewer insurers are willing to provide a quote for non-standard (“high risk”) drivers. Agents report that Progressive is often their “writer of last resort”. Agents always want to close a sale rather than lose a potential customer. Most customers will bring in continuous business with that agent year after year for a very long time. Agents actually have a lower rate of converting customer interest into an actual policy than the direct channel. Customers who seek out Progressive or GEICO because they see their ads are very likely to only go to the website once they have decided that is the insurer they want. The risk of losing a potential customer forces agents to take any commission they can when only one insurer – like Progressive – offers a quote the customer likes. This may happen in certain situations where the driver has a substance abuse problem, a long history of accidents, and other high risk factors. It is also important to remember that most independent agents do not sell policies for most

insurers. Generally, an agent might be able to check something like 10 insurers for quotes and then show the customer the 3 best quotes. Progressive has a much better known brand name than other insurers focused on non-standard drivers. Agents report it is always easy to sell a Progressive policy because everyone knows the name from TV commercials.

The two biggest differences in quality between GEICO and Progressive are scale and retention rates. Each of GEICO's customers is worth more because GEICO has an 89% customer retention rate versus just 80% at Progressive. This means the average GEICO customer stays 2 and a half years longer (6.5 years vs. 4 years) with the company than the average Progressive customer. Much of this difference is demographic. Progressive has younger customers and more non-standard drivers than other leading insurers. GEICO has more preferred business than other insurers. Progressive also lacks much of a bundling business. Progressive's biggest competitive disadvantage in terms of renewals was its lack of insurance products outside of autos. Agents could convince customers to switch to a different – often higher commission paying insurer – that offered homeowners insurance and auto insurance as a bundle. In 2008, Progressive started Progressive Home Advantage to sell renter's insurance and homeowner's insurance as add-ons to existing Progressive auto insurance customers. Customers who bundle Progressive auto with a Progressive renter's insurance policy have a 91% retention rate. Only 10% of Progressive's customers have bundled policies. If Progressive could ever increase its retention rate from 80% to an industry average 90% the result would be very good for earnings. Progressive's growth is severely slowed by the difference in retention rate between the company and its competitors. In the very long-term this is easy to quantify.

Progressive and GEICO combined have 18% of the U.S. auto insurance

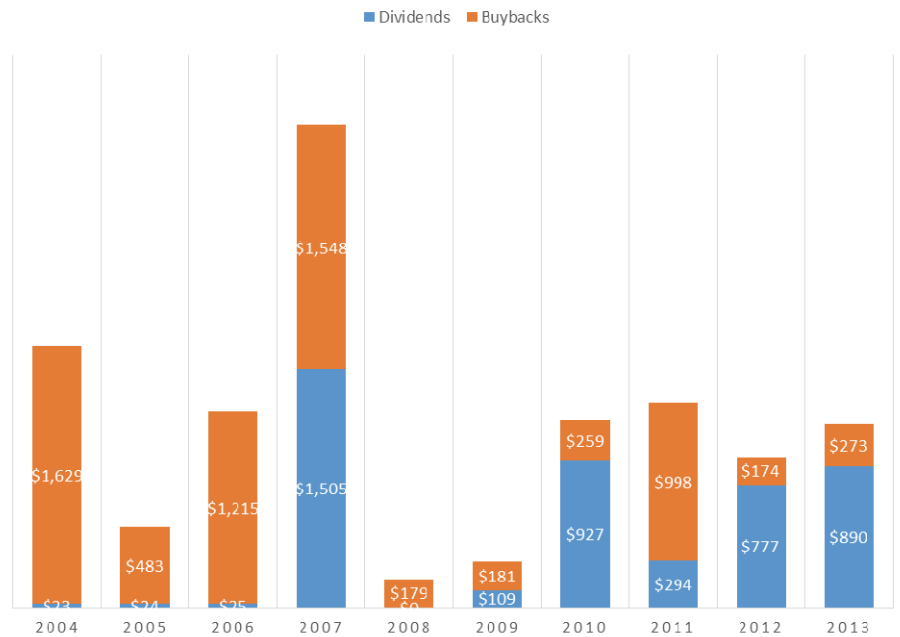
market. However, Progressive and GEICO combined have more than 50% of the new U.S. auto insurance market. Logically, if both GEICO and Progressive had the same retention rate as their competitors and they continued to get more than 50% of all new auto insurance business, the two companies would have a combined market share of 50%. In the decades ahead – as older drivers die off, and younger drivers look to the internet instead of agents for their auto insurance – it is not at all unreasonable to believe that both GEICO and Progressive can double their current market share. This is because their share of new business is triple their market share. Eventually, if new business stays with you at the same rate as it stays with your competitors and old business tapers off – the share of new business predicts future market share. Progressive's quality comes from being the market share leader in the independent agent channel and being in second place in the direct channel. The direct channel is much more concentrated than the agent channel. There are only 3 direct auto insurers with real scale: GEICO, Progressive, and USAA. USAA focuses on current and former members of the U.S. military and their families. So Progressive and GEICO are the two most comparable companies. They are the two companies that will gain the most market share in the future. However, there is no structural reason why Progressive should ever close the gap in the direct channel between it and GEICO. GEICO can actually operate at even higher combined ratios than Progressive because GEICO has Warren Buffett to invest its money in stocks. Progressive mostly owns short-term government backed securities. GEICO also has a higher retention rate and no conflict of interest with independent agents because it has no independent agents. As a result, GEICO can profitably spend more on advertising each year than Progressive can. Car insurance is a true commodity product. So brand awareness is what matters. Segmenting customers based on brand preference is unrealistic. For this reason, Progressive has no clear path to ever overtaking GEICO. In the long-run, GEICO and Progressive can both increase their market share while having combined ratios below 100 and returns on equity above 10% a year in almost all years. However, GEICO's market share will almost certainly be higher than Progressive's at all points in the future because GEICO is starting – today – from a position of greater size in the direct business and has higher retention rates. Progressive's one clear path toward becoming a high quality business is increasing its retention rate through bundling.

CAPITAL ALLOCATION: *Progressive Lowers Debt to 30% of Total Capital and Then Returns all Other Cash to Shareholders*

Progressive's capital allocation is very unusual for an insurer. The company buys back more stock than most insurers do. It also focuses much more on underwriting profit than on investment results. Progressive has low financial leverage in the sense of having very little debt – bonds – outstanding compared to its equity. However, Progressive has very high operating leverage – which in the case of an insurer is just another form of financial leverage – by having a very high ratio of premiums written to statutory surplus. Progressive generally takes in about three dollars in premiums for every one dollar of equity. This means that at a combined ratio of 96 – which is the company's target – it would earn a 12% pre-tax return on equity without counting any investment results. The math is simple. One dollar of equity supports three dollars of premiums. Each dollar of premiums is supposed to – at the 96 combined ratio target – earn the company 4 cents in underwriting profit. So, 4 cents in underwriting profit times 3 dollars of premiums per dollar of equity equals 12 cents of underwriting profit per one dollar of equity. Over the last 25 years, Progressive actually averaged a combined ratio of less than 93. If the same 93 combined ratio were achieved on premiums that were 3 dollars of premiums taken in for every 1 dollar of shareholder's equity, the company would earn a 21% pre-tax return on equity before taking any investment results into account. This would result in a 13% to 14% return on

equity after-tax if investments returned 0%. Progressive's "float" – cash received in premiums but not yet paid out to policyholders to settle claims – is generally a bit higher than the amount of premiums it writes in any one year. And, historically, Progressive has earned between 5% and 6% a year on its investment portfolio. This is not very different from what a bond portfolio earned in normal times. If one assumes that – in the future – an investment portfolio can once again return 5% a year, then Progressive can achieve pre-tax returns on equity of between 17% and 26% a year. This results in 11% to 17% returns on equity after taxes. The reality would actually be a bit better. Progressive uses some debt (the company generally finances its operations with 70% equity and 30% debt) and insurance companies can pay lower taxes than other U.S. corporations if they invest in certain securities. Progressive tends to pay fairly high taxes. But their tax rate is a couple percentage points lower than the 35% federal rate. It is impossible to predict results in any one year. However, the capital allocation strategy that Progressive uses should result in returns on equity between 10% and 20% in most years. Progressive is capable of these kinds of returns on equity while maintaining excellent credit ratings with the credit rating agencies and excellent financial strength ratings from A.M. Best. Progressive's investments are mostly in very short-term government backed securities. The company's debt is mostly in very long maturity fixed rate bonds. Progressive does not have a set dividend it increases every year. So, the company has a lot of financial flexibility.

That does not mean Progressive is without risks. There is one big risk at Progressive and that is underwriting risk. Investment losses alone will not ruin Progressive stock as a long-term buy and hold investment. Poor underwriting results will. In fact, poor underwriting results could kill Progressive. The math here is simple. If Progressive takes in up to 3 times its shareholder's equity in



Over the last 10 years, Progressive has returned \$11.5 billion in buybacks and dividends

premiums each year then Progressive can lose up to 3 times as great a percentage of its equity as it loses per dollar of premiums. In 19 of the last 23 years (83% of the time), Progressive hit its 96 combined ratio goal. As we saw earlier, in years where Progressive achieves this goal, return on equity will be adequate given the company's capital allocation approach. It is those 4 bad years in 23 we need to focus on now. In 1991, Progressive had a combined ratio of 103.6. In 1992, Progressive had a combined ratio of 96.5. In 1999, Progressive had a combined ratio of 98.3. And in 2000, Progressive had a combined ratio of 104.4. Since 2000, Progressive has always hit its 96 combined ratio goal. The performance in 1992 and 1999 was poorer than normal, but the company still generated an underwriting profit. A performance like either of those years would not endanger Progressive's financial position in any way. It is only in years where Progressive has a combined ratio above 100 that there is a problem. In 2 of the last 23 years (9% of the time), Progressive had an underwriting loss. This means – at a minimum – investors in Progressive stock need to be prepared for 1 money losing year each decade. Progressive generally does not take in more than 3 dollars in premiums for every 1 dollar of shareholder's equity. An underwriting loss of 3.6% of premiums – like in 1991 – would result in a pre-tax hit to shareholder's equity of 10.8%. The loss in 2000 was worse. Progressive had a 4.4% underwriting loss in 2000. At 3 times leverage, that is a 13.2% pre-tax hit to equity. These losses can either be mitigated or exacerbated by Progressive's investment gains and losses. However, investment results are a very minor factor for Progressive compared to most insurers. Progressive's worst annual investment loss was 9.5% of its portfolio. Excluding 2008, the company has not posted an annual investment loss in its portfolio at any point since 1993. And, in reality, the 2008 was "mark-to-market". Progressive did not sell the securities it marked down. Those securities were held and eventually resulted in a profit. Progressive's current investment allocation is more conservative than it has been in the past. It is also more conservative than almost any other publicly traded insurer. The company has almost no interest rate risk since its average fixed income investment matures in 1-2 years.

Since 2007, Progressive has not paid a quarterly dividend the way many public companies do. Instead, Progressive uses a variable formula based on after-tax underwriting income. The company uses the same formula to calculate bonuses to employees and dividends to shareholders. Progressive

repurchased 27% of its total shares outstanding over the last 10 years. The company's current cash levels are higher than the targeted mix of 30% debt to total capital. The company has about \$490 million more in capital than it targets. That means the company can return about 83 cents per share to shareholders at some point – through share buybacks, the variable dividend, or special dividends – to get to the desired 30% net debt to total capital level. Progressive's capital allocation policy in terms of how much to allocate to the variable dividend, special dividends, or share buybacks is unclear. The company has formulas and does say it buys back more stock when the stock is cheap. There is evidence Progressive tries to time both share buybacks and long-term debt issuance. However, the certainty in Progressive's capital allocation comes from what it considers surplus cash that needs to be returned to shareholders. Progressive never makes acquisitions. And it always seeks to return to a level of 30% debt to total capital. Whenever debt gets below 30% of total capital, Progressive returns that cash to shareholders in the form of stock buybacks, variable dividends, and special dividends. Because Progressive is such a high quality company – shareholders would benefit most from share repurchases. Progressive has shown a greater commitment to share repurchases – buying back 27% of the company in the last 10 years – than the vast majority of public companies. So it is hard to fault management for not focusing all returns of capital on share buybacks instead of using both buybacks and dividends. The exact way cash will be paid back to shareholders is unclear. But the 30% debt to total capital target is certain. It is also certain that Progressive is about \$500 million – or more than 80 cents a share – overcapitalized relative to its target. This will be paid out at some point.

VALUE: *Progressive is Worth More Than 1.3 Times the Premiums it Writes*

Since 2007, the stock market has valued Progressive at about 1 times premiums. Progressive's ratio of enterprise value to premiums was 1.4 in 2004, 1.8 in 2005, and 1.4 in 2006. However, from 2006 on Progressive's enterprise value to premiums has remained in a very tight range of 0.9 to 1.1 times. Progressive's normal "owner earnings" can be estimated by using a return on sales approach where premiums stand in for sales. Progressive targets a combined ratio of 96 and has achieved this in 19 of the last 23 years. The company has historically earned 7.5% of premiums in underwriting profit and 5.5% of premiums in investment profit. Taken together, these two sources of profit add up to a 13% normal pre-tax return on premiums.

If owner earnings are calculated in this way, Progressive is cheaper than its closest peers. Progressive trades at 7.3 times normal owner earnings. Infinity trades at 7.9 times normal owner earnings. First Acceptance trades at 8.6 times. Safety Insurance at 9 times. Direct Line at 11.1 times. And Mercury General at 11.9 times. While the quality of these peers varies – Progressive has a better competitive position than most of them. Most importantly, Progressive trades at a very low price to underwriting profit. Progressive trades at 15 times underwriting profit. None of the peers mentioned earlier trade at less than 22 times underwriting profit.

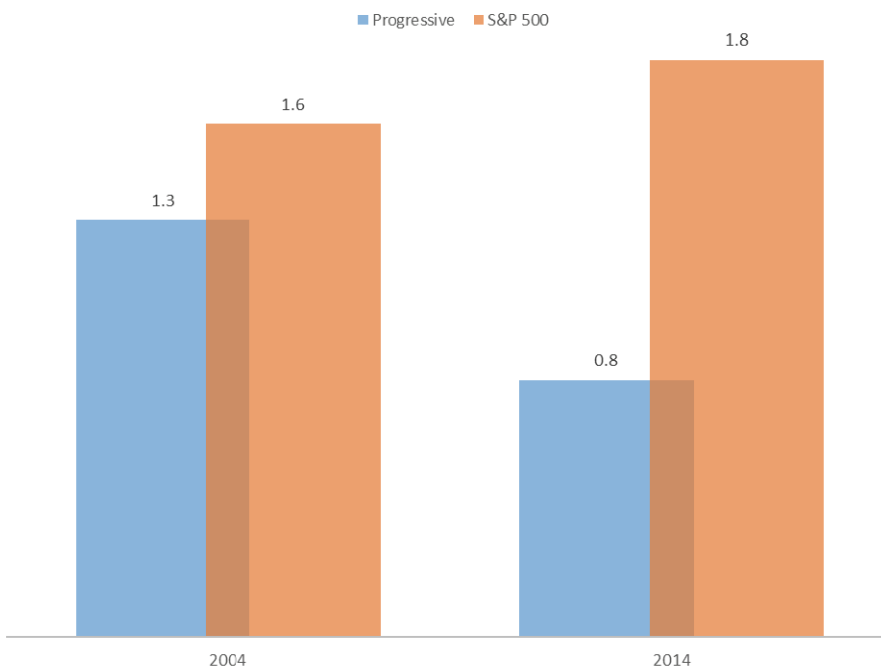
This is significant because although future investment returns may be much lower than past investment returns if interest rates stay low for a long time – there is no reason to believe normal underwriting profits will be lower in the future than they were in the past. In fact, the lower the yield on bonds is the less incentive there is for insurers to write policies at high combined ratios because the value of the "float" the premiums generate is only as good as the expected return they can get on their investments. So while some argument can be made that investment returns – especially on the kinds of bonds Progressive invests in – will be lower than usual for a long time to come, there is no real reason to believe underwriting profit should be lower in the future than it was in the past.

Over the last 23 years, Progressive averaged a 7.5% underwriting margin. Because Progressive was in the non-standard auto insurance business almost exclusively before the 1990s and the non-standard business was a very profitable niche before the late 1980s, Progressive's underwriting record over the last 50 years would actually be even better than its underwriting record over the last 25. So, the expectation of a 7.5% underwriting margin in the future is well supported by the company's past record. Based on this assumption, Progressive is trading at the after tax equivalent of a P/E of 23 before any investment return is considered. Historically, Progressive got a little over 40% of its earnings from investments (the other 60% came from underwriting). If this pattern holds in the future, Progressive is now trading at the after-tax equivalent of a P/E of 11. That is a very low price for a company with a very strong competitive position in the direct insurance business. Progressive is second only to GEICO in direct insurance and direct insurance is certain to take much more market share for at least the next decade or two.

A price to normal earnings of 11 seems very low for a company that will have some growth and will pay out all of its earnings in stock buybacks and special and variable dividends. Throughout history, American stocks have averaged a price of about 15 times earnings which is equivalent to 10 times pre-tax profits given today's corporate tax rate. Using the 10 times pre-tax profit as a reasonable level for Progressive, the company should trade at 1.3 times premiums because it should earn a 13% return on premiums in the future. Now, the argument can be made that Progressive should actually trade at a lower level in the future than it did in the past because its investment portfolio

will earn less per dollar of float than it did in the past. However, this argument that turns out to be flawed. Progressive invests in securities. The company focuses on bonds rather than stocks. However, bonds and stocks both compete for investor money. Low interest rates that tend to push down the yield on bonds also tend to push down the earnings yield on stocks. This means that persistently low interest rates should result in higher P/E ratios. In other words, if Progressive earns less per dollar of float on its own investments – investors in stocks should actually award Progressive shares a higher multiple per dollar of its earnings, because there are no good alternatives available. Progressive is cheap on an absolute basis if you consider the P/E of 11 times normal owner earnings to be a discount to the more historically normal 15 times earnings that American stocks have traded at in the long-term past.

The discount between Progressive and other stocks today is actually much greater than that difference between a P/E of 15 and a P/E of 11. The average stock is trading at a significant price-to-sales premium to where it traded in the past. Progressive is not trading at a premium to the price to premiums ratio it traded at in the past. A comparison of Progressive's price-to-sales ratio 10 years ago versus today with the S&P 500's price-to-sales ratio from 10 years ago and today illustrates this well. In 2004, Progressive's price-to-sales ratio was 1.3. Today it is 0.8 (leveraged). In 2004, The S&P 500 had a price-to-sales ratio of 1.6. Today, that ratio is 1.8. Looking at the spread between Progressive's price-to-sales ratio and the S&P 500's is particularly useful. In 2004, Progressive had a price-to-sales ratio of 1.3 versus 1.6 for the S&P 500. Today, Progressive has a price-to-sales ratio of 0.8 versus 1.8 for the S&P 500. The past record for Progressive suggests a 13% return on sales (7.5% from underwriting and 5.5% from investing) is possible. Right now, the S&P 500 is actually earning more than a 13% pre-tax return on sales. However, this is a temporary occurrence. Throughout



Progressive's price-to-sales ratio is 56% lower than the S&P 500's price-to-sales ratio

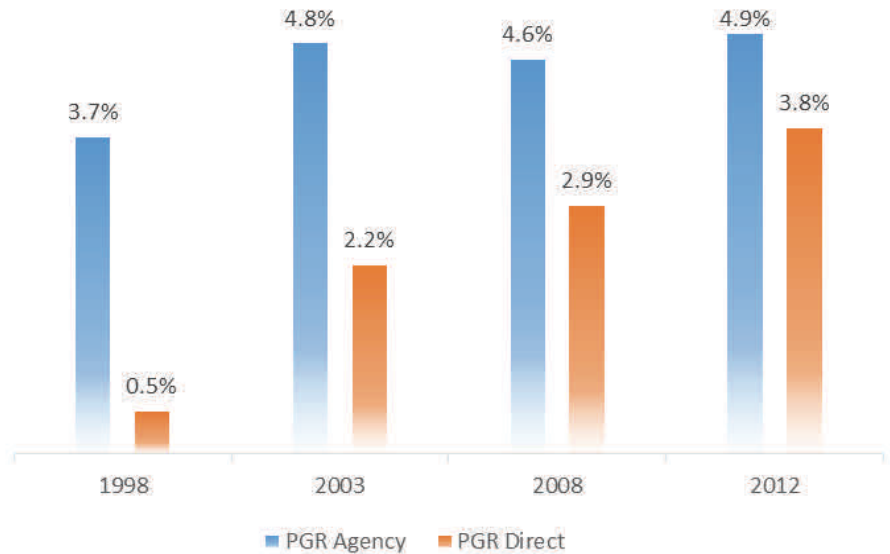
the history of Progressive and the history of the S&P 500 there has been no consistent return on sales advantage for the S&P 500 over Progressive at all. This last point is critical to keep in mind. Progressive is trading at a 56% discount to the S&P 500's price-to-sales ratio. Progressive's stock is 56% cheaper per dollar of sales than the S&P 500. However, the S&P 500's sales have – historically – not been any more productive than Progressive's. Each dollar of S&P 500 sales has not resulted in more cents of operating earnings than the same dollar of sales at Progressive. Based on the past record alone, there is no reason to believe Progressive should trade at a lower price-to-sales ratio than the S&P 500. And yet the difference in the price-to-sales ratio is shockingly large at 1.8 times versus 0.8 times. If this argument from the past record is correct in its predictions about the future it only proves that Progressive is a bargain relative to the S&P 500. In theory, the S&P 500 could be 60% overvalued and Progressive worth a little less than its current price. That would still make it a relative bargain compared to the S&P 500. It proves nothing in absolute terms.

GEICO is a better peer than the S&P 500. Warren Buffett paid 1.64 times GEICO's premiums to buy the 50% he did not already own in 1995. The investment has worked out very well for him. Progressive trades at almost half the price per premiums that Buffett paid for GEICO. However, it is important to remember that GEICO had Lou Simpson investing its float and GEICO was in a stronger competitive position in its direct business in 1995 than Progressive is now. GEICO was certainly worth much more than 1.64 times premiums in retrospect. However, that does not prove that Progressive is worth 1.6 times premiums today. A very simple way to attempt to value Progressive in absolute rather than relative terms is to look at the 10-year average return of cash to shareholders versus today's shares outstanding. Progressive returned \$1.15 billion a year over the last 10 years. That is equivalent to 7.8% of today's market cap. Progressive also grew during this period. It is reasonable – in fact, quite conservative – to assume Progressive will grow at least 3% a year in the future. That means a 7.8% cash return plus growth would be more like a 10.8% return. Progressive is bigger today than it was at the start of that 10 year period. It will almost certainly return more money over the next 10 years than it did over the past 10 years. If it grows 3% a year, that means Progressive

stock should return at least 11% a year over the next 10 years. An 11% a year annual return expectation over the next 10 years makes Progressive a good value in absolute terms as well as a clear bargain in relative terms.

GROWTH: *Progressive's Growth Will Come From its Direct Business Not its Agency Business*

Car insurance is a very low growth business. In recent years, it has been an almost no growth business. Over the last 30 years, car insurance grew 2.2% a year in real (inflation adjusted) terms. In more recent years, it has grown even slower. Technology influences car insurance market growth in two ways. It increases accident severity because it costs more to replace parts on a technologically advanced modern car than a more primitive car. However, modern cars have much lower accident frequency than their non-computerized predecessors. Over the last 30 years, the frequency of accidents declined by 0.8% a year. This was largely due to the adoption of technologies providing stability control, lane keeping, adaptive cruise control and other forms of collision avoidance through computerized driver assistance. Progressive's management believes accident frequency will continue to decline due to technology. The number of vehicles on the road basically tracks population growth. So, real growth in the car insurance industry is caused by the difference between accident severity increases and accident frequency declines plus population growth. Population growth will be lower in the future than it was in the past. It is unreasonable to expect the U.S. population to grow faster than 1% a year. Accident severity can roughly track inflation. It could grow faster than inflation (or slower) because higher adoption of new technologies and more expensive new cars can cause people to pay more for a car than they used to simply because they believe they are getting the



Progressive Direct grew its share of the U.S. car insurance market from 0.5% to 3.8% in just 14 years

same – or better – value for their money due to technological progress. In fact, the long-term trend for car prices is a bit – a very small bit – above the long-term increase in the consumer price index. The difference is at most about a 4% car price increase versus a 3% consumer price index increase over the last several decades. This is not strong evidence for any permanent difference between car price inflation and inflation in all consumer prices.

For this reason, it makes the most sense to simply assume that the average policy will – in nominal terms – increase at a rate of inflation minus accident frequency declines. Over the last 30 years, accident severity declined 1% a year. Car makers are more focused on collision avoidance technologies now than they were in the 1980s and 1990s. So, there is no reason to believe accident frequency will decline at any less than 1% a year. A good estimate of nominal growth in policies is therefore inflation minus – at least – 1%. Given current inflation levels in the U.S., this is very close to zero. Accident frequency could easily decline by 2% a year if adoption of automated driver assistance for avoiding collisions is much faster than it was in the past. It is entirely conceivable that accident frequency reductions could offset inflation. If this happens, the car insurance industry would not grow in nominal terms any faster than the population of insured drivers. A long-term nominal growth expectation of the population growth rate on the extreme low end and the inflation rate on the extreme high end seems reasonable. It is entirely possible the car insurance industry as a whole may grow only 1% a year in nominal dollars. However, it is worth mentioning that this is very dependent on the future rate of inflation. If inflation is about 3% a year, nominal growth of 1% a year is entirely possible because of the reduction in crashes per driver due to better technology.

However, if inflation was more like 10% a year, the car insurance industry would – even with very high reductions in accident frequency – probably grow more like 8% a year. Simply put, inflation will definitely be passed right through insurers and on to drivers. There is no scenario in which it is reasonable for insurers to undercharge for expected losses for more than just a few years in a row. Car insurance policies are re-priced every 6 months in the U.S. Companies like Progressive can re-price the quote they will provide for a driver almost constantly. They are capable of – and actually do make – slight adjustments to assumptions on a daily basis. Progressive publishes a monthly financial report. The importance of quickly reacting to changes in

frequency and severity is well understood. And most of Progressive's ability to re-price policies based on incoming loss data predates the internet. Progressive is better than other insurers in how quickly it does this. But all insurers can react fairly quickly. And every insurer can copy the pricing actions of its competitors. A price increase taken today will ripple through the industry and be adopted by everyone and impact every driver's premiums within just a couple years. If the U.S. experiences any period of sustained high inflation, car insurance premiums will rise as rapidly as inflation. But putting aside inflation, the actual real growth of the industry will likely be very close to zero. Over the last 10 years, the car insurance industry grew 0.7% a year. If inflation is low, it is probable that the market will not grow any faster than that over the next 10 years.

However, Progressive will definitely grow faster than the industry. Progressive gets 45% of its premiums from its direct business. The direct car insurance segment of the overall market – which consists almost entirely of GEICO, Progressive, and USAA – has grown consistently since Americans started using the internet. In 1995, the direct channel had 7.7% of all car insurance policies. By 2000, it was 9.8%. Market share improved to 11.8% in 2005. Then 16.4% in 2010. And 18.3% in 2012. GEICO and Progressive spend huge amounts of money advertising their direct car insurance business. The two companies together get over 50% of each year's new business. Progressive's independent agent business gained market share from 1998 to 2003. However, over the last 10 years, there has been little change in Progressive's agency channel market share. A big reason for this is probably the "soft" car insurance pricing environment throughout most of the last 10 years. Progressive targets a 96 combined ratio. The company has a lower expense ratio than its competitors (other than GEICO). When Progressive hits a 96 combined

ratio, most competitors earn no underwriting profit (their combined ratio exceeds 100) in those years. If Progressive overestimates losses – as happened throughout the last 10 years – and continues to price for a 96 combined ratio, it does not keep prices low enough to force its competitors into a combined ratio of 100 or higher to match Progressive's price. In other words, if Progressive assumes losses will be worse than they actually are and prices its policies accordingly – the company will not undercut its competitors on price and will not win as much new business. Progressive overpriced its policies – due to assuming worse losses than actually occurred – throughout the 2003 to 2006 period. From 2003 to 2006, Progressive had a combined ratio between 86 and 89. The company should have been charging about 5% less than it was for its policies. This overpricing slowed growth. The same thing will happen in the future. Generally speaking, the higher Progressive's combined ratio is the faster the company will grow. The lower the combined ratio is the slower the company will grow. Over the last 10 years, Progressive grew its premiums written by 7.7% a year. If the company had earned less in underwriting profit by pricing its policies lower during soft times, it would have grown faster. Progressive's agency business growth is very sensitive to the company's combined ratio. It is very price sensitive. During a "normal" market (92 to 95 combined ratio) from 2008 to 2013, the agency business grew 3.5% a year. An estimate of 0% to 3% annual growth in Progressive's agency business seems reasonable. Progressive's direct business should be able to grow 6% to 9% a year (so should GEICO). Progressive's direct business now accounts for 45% of its total business. As a result, the company as a whole should be capable of 3% to 6% annual growth. Because GEICO and Progressive together account for over 50% of all new business but only 20% of total market share, Progressive's direct business alone seems very likely to provide the company with 3% annual growth regardless of what the other half (the agency business) of the company does. For this reason, investors can count on 3% growth at Progressive.

MISJUDGMENT: *Progressive's Safety Depends on it Sticking to a 96 Combined Ratio Goal*

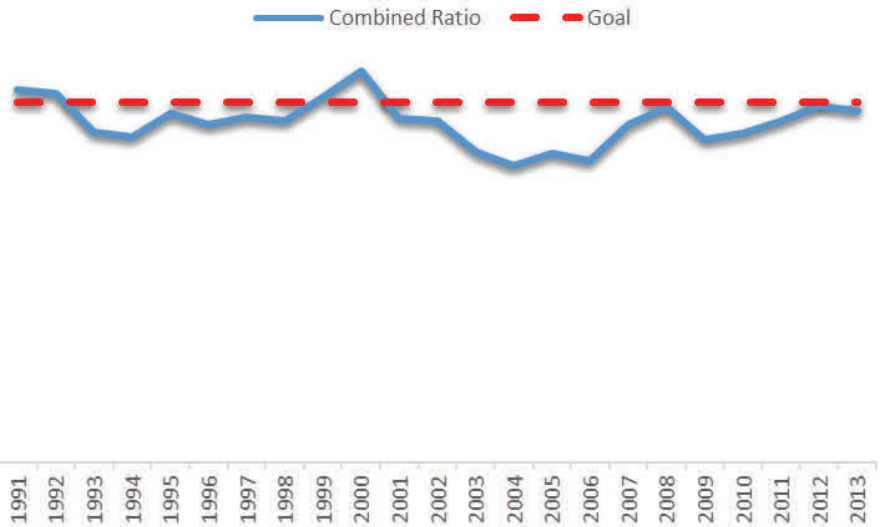
Progressive's future is completely dependent on its underwriting. The company writes much more insurance – takes in more premiums – relative to its capital than its competitors. Progressive's premiums-to-capital ratio is 2. First Acceptance's is 1.7. Infinity's is 1.4. Mercury's is 1.3. Safety Insurance takes in just 1 dollar of premiums for every 1 dollar of capital it has. Progressive's mix of 30% debt to 70% equity means the company leverages its underwriting margin 3 times relative to equity. A combined ratio of 104 (a level both GEICO and Progressive hit in 2000) can translate into a pre-tax loss of 12% of total shareholder's equity. In a normal environment, Progressive could make up such a loss in just one year.

The company does not lack the data necessary to make good underwriting decisions. Progressive collects more data and segments it more finely than almost any other insurer. Most importantly, Progressive has a history of writing insurance for high risk drivers, motorcycles, and other vehicles. Companies with little history outside of standard policies that cover only cars are more likely to make mistakes expanding into covering different types of vehicles and higher risk drivers. GEICO has expanded from preferred policies for cars into a wider mix of business. Progressive has expanded the other way from harder to analyze niches into easier to analyze more general auto insurance.

There is no doubt that Progressive segments its data more finely than any other insurer. Progressive has often been the first insurer to embrace new types of data that have predictive power. For example, Progressive was the first insurer – back in 1991 – to use driver's credit histories to help predict

which drivers would get into more accidents and cause greater losses. Progressive developed the Snapshot program to monitor individual driver behavior directly. Progressive gives drivers a device that they put in their car to monitor driving behavior for 6 months. When the 6 months are over, the driver returns the device to Progressive and Progressive gives the driver a discount based on how safely they drove. The device measures lane changing, time of day the car is driven, braking, acceleration, speed, and the amount of actual usage the car gets. The discount can be as great as 30%. So far, over 1.6 million drivers have participated in the program. As a result, Progressive has more than 5 billion miles of data. Progressive's management claims this data is the most predictive form of data they have. Warren Buffett has said that GEICO does not have a similar program because they have not seen evidence that usage based data can provide a competitive advantage in underwriting. Progressive's data collection and analysis is at least as good as GEICO's. It may be better.

Progressive will have as good data as anyone else in the car insurance industry. And they will have the tools to analyze it as well as anyone else. If Progressive makes mistakes in underwriting, these mistakes will be caused by a breakdown in the culture rather than a lack of analytic ability. Progressive is similar to GEICO in many respects. One negative respect Progressive shares with GEICO is the ability to do tremendous harm to the company's financial position within just a couple years of bad underwriting. If Progressive under-reserves for losses or discards its own 96 combined ratio target, it could end up in the same position GEICO found itself in the 1970s. Warren Buffett recounted GEICO's brush with death in his 2004 annual letter to shareholders: "Between 1936 and 1975, GEICO grew from a standing start to a 4% market share, becoming the country's fourth largest auto insurer. During most of this period, the company was



Progressive failed to meet its goal of a 96 combined ratio from 1991-1992 and from 1999-2000

superbly managed, achieving both excellent volume gains and high profits. It looked unstoppable. But after my friend and hero Lorimer Davidson retired as CEO in 1970, his successors soon made a huge mistake by under-reserving for losses. This produced faulty cost information, which in turn produced inadequate pricing. By 1976, GEICO was on the brink of failure."

Progressive's business model is similar to GEICO's. Faulty cost information would do the same damage to Progressive today as it did to GEICO 40 years ago. In 2000, State Farm had a combined ratio of 118. The year 2000 was a bad one for auto insurers. State Farm's reckless pricing in that year caused both GEICO and Progressive to lose money on underwriting. They both had combined ratios of 104. GEICO's target is to have "cost free float". Progressive's target is to grow as fast as possible without exceeding a combined ratio of 96. In 2000, GEICO missed its target by about 6% of premiums while Progressive missed its target by about 8% of premiums. In other words, prices were 6% too low for GEICO to achieve no cost float and 8% too low for Progressive to achieve a combined ratio of 96. State Farm's losses were obviously much, much bigger. In 2000, State Farm lost 18 cents for every one dollar of premiums it took in. If Progressive did the same thing, its much higher underwriting leverage could cause losses as great as 54% of shareholder's equity at a combined ratio of 118. Progressive has never had a combined ratio anywhere near that level. In the last quarter century, its worst combined ratio performance was 104.4 in 2000. GEICO also had a combined ratio of 104 that year. And Progressive's performance was not worse than competitors. But the future may not be like the past. GEICO avoided lethal underwriting mistakes in the forty years before and the forty years since the bad 5 year patch of under-reserving during the 1970s. If a car insurer like GEICO or Progressive has 80 good years and 5 bad years – it can still go broke if the bad years are bad enough and happen one right after the other. GEICO was too slow to respond to evidence it had under-reserved. The company had to replace its CEO and undergo a severe culture change.

Progressive has a very consistent culture of extreme discipline in underwriting. But it is easy to maintain that culture when you only have a single succession period in 50 years. Over the last half century, Progressive has had just two CEOs: Peter Lewis (1965-2000), and Glenn Renwick (2001-Today). Progressive's CEO, CFO, head of claims, and head of personal lines have all been with the company for between 25 and 30 years. So while it is

true that Progressive has done a very good job of maintaining consistent underwriting behavior – that is easiest when today’s managers have a direct link with the company’s cultural past. Every top executive at Progressive worked under the former CEO – Peter Lewis – for more than a decade. They all started at Progressive when they were relatively young and spent most of their careers at a company that had the same CEO since 1965.

Progressive takes its goal of growing as fast as possible at a combined ratio of 96 very seriously. In 2007, the company’s CEO said: “It is extraordinarily important to us as almost a cultural element and also our clearest communication to our shareholders.” In 2011 the (same) CEO said: “...96 not only serves us well financially, and I understand the trade-offs there, not only serves us well financially, but culturally, it’s a very, very strong goal. And I would say, clearly I’m biased on this one, that Progressive is the company it is, probably because it has constancy of purpose. And that constancy of purpose, while it’s okay to change it from time to time, has to be an extraordinary challenge to change it. And I’d just tell you, I have not reached that conclusion.” Analysts ask all the time whether Progressive will relax this 96 combined ratio rule. At the 2012 investor meeting the CEO again denied that would happen: “...grow as fast as you can at a 96 is much more than a goal. It is a cultural imperative to us. It’s how we operate...from a pure goal perspective, grow as fast as you can at 96 is our manta. It is deeply seated in everything we do in Progressive. It’s not just sort of just this week we’ll do that. And don’t look for new change on that.” There is almost no risk of Progressive abandoning its underwriting discipline under Glenn Renwick (the current CEO): “...it’s a long held philosophy and one I am very, very supportive of. This company as an operating company needs to have a benchmark around which everything else operates and bringing the company in at a 4% underwriting

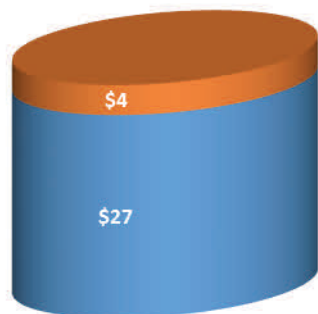
margin and growing as fast as we can is something that’s a constant...you should think of Progressive as having a very constant mantra...we’re not going to change the fundamental operating parameters of the company.” For now, investors can be confident in Progressive’s underwriting discipline. If – after Progressive gets a new CEO – it finally does abandon the 96 combined ratio goal, then investors should rethink the investment. But as long as the current CEO and current 96 combined ratio mantra are in place – there is almost no risk of repeating GEICO’s near death experience.

CONCLUSION: *Progressive is a Great Business Trading at a Small Discount to a Conservative Valuation*

Progressive belongs to the slowest growth industry – car insurance – this newsletter has ever analyzed. While something like U.S. supermarket sales is unlikely to grow much at all in real terms – it will grow in nominal terms at a rate about equal to inflation. Because of the decrease in accident frequency – real losses from car accidents may not grow at all in the future. Any transition to driverless cars would certainly cause losses – even on the cars that still had drivers – to decrease in real terms. Car accidents are caused by human error. The more computers take the responsibility for driving away from humans – the fewer accidents there will be. Fewer accidents lead to fewer car insurance claims. Insurance premiums are set through intense price competition for new business. Basically, the price level at which several car insurers – besides clear leaders like GEICO and Progressive – can offer to insure losses and eke out a profit is the level where prices will settle. The industry has no ability to increase premiums over time faster than losses increase. Technology can reduce losses. Therefore, technology can reduce premiums. Simply put, all of the benefits of accident avoidance technology will go to car owners in the form of lower premiums. Car insurers are incapable of capturing any benefit from technology long-term because they compete this benefit away through offering the lowest possible quotes relative to the competition to attract new business. In the very long-term, improvements in car driving technology will be purely a consumer benefit. Drivers only need car insurance to the extent the risk of accidents exist. Over time, the risk of accidents will decrease. Historically, these frequency declines have been offset by real increases in the value of losses as cars become more expensive to repair and replace. However, technology can increase more rapidly in this area than it did in the past. There is no guarantee at all that the U.S. car insurance market will not shrink in real terms. This is unusual. Even something as basic as the supermarket industry will clearly grow a little in real terms along with the population. That is not the case in car insurance.

So there is real doubt that the car insurance industry as a whole will grow as fast as – or faster than – inflation. At the same time, there is really no doubt that Progressive will grow as fast as inflation. Progressive and GEICO together get more than 50% of all new business in car insurance. The two companies only combine for a 20% share of the market. Over time, their 20% combined market share will – slowly, very slowly – creep up toward a 50% market share. Progressive now gets about 45% of its premiums from the direct business. Progressive’s direct business may grow as fast a 6% to 9% a year. That means that even if Progressive’s agency business does not grow, the company as a whole can increase sales at 3% to 4% a year. Progressive returns all of its earnings to shareholders in the form of stock buybacks and dividends. At today’s price, the 3-year average annual cash return – counting both buybacks and dividends – is equivalent to a 7.7% yield. To get a 10% annual return, shareholders only need future cash returns to equal the recent cash returns (7.7% of the stock price) plus 2.3% annual premium growth. That can be accomplished if the agency business does not grow at all and the direct business grows 5% a year. Those are easy growth hurdles for Progressive to clear. The stock may not be a fast grower, but it is a high cash returner. The

■ Stock Price ■ Margin of Safety



Progressive's stock is only trading about 15% below an enterprise value of 1.3 times premiums

value of a stock really depends on the combination of the earnings it pays out and the growth it achieves. The concept of "free cash flow" is not directly applicable to a financial services company. However, the amount of earnings that can – in normal times – be paid out to shareholders is something that can be estimated. At Progressive, this form of free cash flow yield is now 7%. The company is capable of 7% returns without any growth. And the company is definitely capable of 3% annual growth. The combination of these two factors will result in 10% annual returns. That kind of rate of return is excellent relative to where other stocks are priced right now. It is also adequate from a long-term historical perspective. U.S. stocks have not – over the long-term - returned more than 10% a year. So, any stock – especially one available in today's expensive stock market – that offers a clear path to 10% annual returns is a good buy and hold investment choice.

There are three risks in owning Progressive. One, is investor error. An investor might buy Progressive today and sell out at a bad time. This can easily be avoided by never selling Progressive. Since going public, Progressive has been an excellent investment. It has vastly outperformed the S&P 500. So did GEICO when it was public. It has done well for Berkshire Hathaway

too. The benefits of holding a fast growing, direct car insurance business are very high. There is no reason to sell the stock unless there is a threat to its solvency. Progressive uses very little debt. The company's investment portfolio is extremely conservative. The only risk to solvency is underwriting risk. However, Progressive is not immune from the insurance cycle. It will – as it did twice in the last 23 years – lose money in its underwriting from time to time. The company had a combined ratio of 104.4 in 2000. Progressive leverages its business at up to 3 times premiums to shareholder's equity. A combined ratio between 104 and 105 can lead to a loss of 12% to 15% of shareholder's equity in a single year (before taxes – the after-tax loss is obviously lower). It can be difficult for an investor to hold a stock when it loses 12% to 15% of its equity in a single year. In such a year, it is possible that all car insurers – including GEICO – might also be posting underwriting losses. The outlook for the industry could be negative at this time. Market sentiment toward the group could be poor. There could be a lot of signals telling an investor to sell the stock. A buy and hold investor must not do that. The key to making money in a wide moat insurance company is holding the stock during a period of difficult underwriting for the entire industry. Eventually, unusual underwriting losses and unusual underwriting profits are both "self-defeating" trends. Low price quotes and high losses today cause insurers to raise their quotes and re-assesses their expectations for future losses. This allows all insurers to be more competitive at higher price levels. The reverse happens during good times for insurers. Neither especially good nor especially bad times for insurers ever last for long. As long as an investor is confident in the relative long-term competitive position of the insurer he owns – he should ignore the industrywide insurance cycle entirely.

So the first risk in holding Progressive can be eliminated through the investor's own actions – simply stick to holding the stock no matter what happens. The second risk is the underwriting risk. Progressive is highly leveraged to its underwriting margin. It has made growing as fast as possible while hitting a combined ratio of 96 its mantra. As long as Progressive sticks to this 96 combined ratio target in both word and deed investors should stick with the company. There is no solvency risk at Progressive while the company has a combined ratio less than 100.

The last risk for Progressive is one neither the company nor investors in its stock can avoid. It is driverless cars. Eventually, the United States will move toward driverless cars. Over 35,000 people died in car crashes in 2013. The universal adoption of driverless cars would save most of those lives. There is a huge societal incentive to adopt driverless cars. The individual household incentive to do so is much, much lower. And even if car makers, car buyers, and state and local governments were all determined to adopt universal driverless technology as quickly as possible – it is unlikely the technology could be pervasive within less than 15 years of its first mainstream commercialization. So far, there has been no commercialization of true driverless technology. One day, driverless cars will obsolete the car insurance industry. That day is probably several decades in the future. The net present value of the capital Progressive can return over the next couple decades is great enough to justify buying the stock even if the company is eventually made obsolete by the widespread adoption of driverless cars.

Progressive (NYSE: PGR)

Appraisal: \$34.59

Margin of Safety: 20%

Owner Earnings	(in millions)
Premiums Written	\$17,340
* Normal Underwriting Margin	7.5%
Underwriting Profit	\$1,301
Float	\$18,759
* Normal Investment Return	5.5%
Investment Income	\$1,032
Underwriting Profit	\$1,301
+ Investment Income	\$1,032
= Pre-tax Owner Earnings	\$2,332

Business Value

Progressive's business value is \$22,542 million.

- ... Premium written is \$17,340 million
- ... Fair multiple = 1.3x premiums written
- ... \$17,340 million * 1.3 = \$22,542 million

Fair Multiple

Progressive's business is worth at least 1.3x premiums written.

- ... Progressive achieved an average 13% margin in the past
- ... Progressive can grow between 3% and 6% in the future
- ... There's an inverse relationship between growth and margin
- ... If margin is 10%, growth will be closer to 6%
 - ... 1.3x premiums written is equivalent to 13x EBIT
 - ... It's fair to pay 13x EBIT when growth is over 5%
- ... If margin is 13%, growth will be closer to 3%
 - ... 1.3x premiums written is equivalent to 10x EBIT
 - ... It's fair to pay 10x EBIT when growth is about 3%

Share Value

Progressive's stock is worth \$34.59 a share.

- ... Business value is \$22,542 million
- ... Debt is \$2,164 million
- ... Equity value is \$20,378 million
- ... \$22,542 million - \$2,164 million = \$20,378 million
- ... Equity Value = \$34.59/share
 - ... 589.21 million outstanding shares
 - ... \$20,378 million / 589.21 million = \$34.59

Margin of Safety

Progressive stock has a 20% margin of safety.

- ... Business Value = \$22,542 million
- ... Enterprise Value = \$18,073 million
- ... Discount = \$4,469 (\$22,542 million - \$18,073 million)
- ... Margin of Safety = 20% (\$4,469 million / \$22,542 million)

	EV/Premiums	EV/Float	EV/Underwriting	EV/Owner
First Acceptance	0.71	1.09	24.55	8.62
Infinity	0.80	0.69	61.24	7.89
Mercury General	1.12	0.90	291.40	11.89
Safety Insurance	1.12	0.68	33.87	8.96
Direct Line	1.31	0.70	21.86	11.11
Minimum	0.71	0.68	21.86	7.89
Maximum	1.31	1.09	291.40	11.89
Median	1.12	0.70	33.87	8.96
Mean	1.01	0.81	86.58	9.69
Standard Deviation	0.25	0.18	115.55	1.72
Variation	24%	22%	133%	18%
Progressive (Market)	0.98	0.91	15.17	7.29
Progressive (Appraisal)	1.30	1.21	20.12	9.67

ABOUT THE TEAM



Geoff Gannon, Writer

Geoff is a writer, blogger, podcaster, and interviewer. He has written hundreds of articles for Seeking Alpha and GuruFocus. He hosted the Gannon On Investing Podcast, The Investor Questions Podcast, and The Investor Questions Podcast Interview Series. He wrote the Gannon On Investing newsletter in 2006 and two GuruFocus newsletters from 2010-2012. In 2013, he co-founded The Avid Hog (the predecessor to Singular Diligence) with Quan Hoang. Geoff has been blogging at Gannon On Investing since 2005.



Quan Hoang, Analyst

Quan is a stock analyst. Quan won first prize in Vietnam's National Olympiad in Informatics in 2006. He graduated from Manhattanville College in 2012 with a B.A. in finance and a minor in math. In 2013, Quan co-founded The Avid Hog (the predecessor to Singular Diligence) with Geoff Gannon.



Tobias Carlisle, Publisher

Tobias Carlisle is the founder and managing director of Eyquem Investment Management LLC, and serves as portfolio manager of the Eyquem Fund LP and the separately managed accounts.

He is best known as the author of the well regarded website Greenbackd, the book *Deep Value: Why Activists Investors and Other Contrarians Battle for Control of Losing Corporations* (2014, Wiley Finance), and *Quantitative Value: a Practitioner's Guide to Automating Intelligent Investment and Eliminating Behavioral Errors* (2012, Wiley Finance). He has extensive experience in investment management, business valuation, public company corporate governance, and corporate law.

Prior to founding Eyquem in 2010, Tobias was an analyst at an activist hedge fund, general counsel of a company listed on the Australian Stock Exchange, and a corporate advisory lawyer. As a lawyer specializing in mergers and acquisitions he has advised on transactions across a variety of industries in the United States, the United Kingdom, China, Australia, Singapore, Bermuda, Papua New Guinea, New Zealand, and Guam. He is a graduate of the University of Queensland in Australia with degrees in Law (2001) and Business Management (1999).