

# Silver Producers Report – July 14, 2010

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## Introduction

The Metal Augmentor is an investment research service located at <http://www.metalaugmentor.com/>. We specialize in covering gold, silver and other metals and mining stocks from primarily a fundamental perspective along with some technical analysis as well as market timing. We have built a robust peer valuation database for exploration stage, development stage, and production stage gold, silver, base metal, and “energy metal” companies.

This report focuses on primary silver producers, loosely defined as companies that generate the majority of their revenue from silver production, and that are generally viewed by investors as silver mining companies. In addition to the mid-tier silver producers included in our [most recent report](#), we’ve now added Aurcana (TSX-V: AUN), Excellon Resources (TSX: EXN), Great Panther Silver (TSX: GPR), and Silver Wheaton (NYSE: SLW; TSX: SLW) to our model.

Company	Symbol	Exchange	Current Share Price	Valuation Targets in Original Currency			Valuation Targets Relative to Current Share Price		
				Base Case	Best Case	Worst Case	Base Case	Best Case	Worst Case
Aurcana	AUN	TSX-V	\$0.23	\$0.52	\$0.81	\$0.17	128%	271%	-27%
Coeur	CDE	NYSE	\$15.29	\$15.24	\$23.21	\$6.12	0%	52%	-60%
Endeavour	EXK	AMEX	\$3.50	\$3.04	\$4.34	\$1.54	-13%	24%	-50%
Excellon	EXN	TSX	\$0.86	\$0.83	\$1.19	\$0.46	-3%	38%	-45%
First Majestic	FR	TSX	\$4.03	\$4.39	\$6.28	\$2.30	9%	55%	-39%
Fortuna	FVI	TSX	\$2.09	\$3.30	\$4.65	\$2.04	58%	122%	-2%
Great Panther	GPR	TSX	\$0.74	\$1.00	\$1.52	\$0.43	35%	111%	-41%
Hecla	HL	NYSE	\$4.97	\$5.20	\$7.23	\$3.17	5%	49%	-39%
Pan American	PAAS	NASDAQ	\$24.76	\$27.44	\$36.52	\$18.18	11%	49%	-27%
Silver Standard	SSRI	NASDAQ	\$16.80	\$30.13	\$39.67	\$22.23	81%	139%	32%
Silver Wheaton	SLW	NYSE	\$19.20	\$12.69	\$17.37	\$7.83	-35%	-10%	-59%
Silvercorp	SVM	NYSE	\$6.78	\$3.98	\$5.80	\$2.20	-41%	-14%	-67%
U.S. Silver	USA	TSX-V	\$0.21	\$0.25	\$0.60	\$0.10	21%	193%	-51%

### Summary of New Additions

**Aurcana** – While our model shows that Aurcana is significantly undervalued relative to other silver producers at current metal prices (i.e. base case scenario), it is important to keep in mind that there is a fair amount of execution risk involved that could easily account for the valuation gap.

At the Shafter project, which is expected to start production in early 2012, the silver grade is on the low side even for an underground operation at about 8 ounces per tonne (or about 7 opt after taking into account metallurgical recoveries). Grade dilution and costs will have to be controlled very closely, a task made difficult by the general lack of available underground mining expertise in the U.S. market.

Meanwhile at the producing La Negra mine, management is assuming a 10+ year mine life despite the fact that existing resources only allow for 2-3 more years. The expectation of long-term operations is based on historical resource estimates and over 30 years of production history, but it remains unclear if the required exploration success is achievable and at what cost. For now we are assuming a 7.5 year mine life, and already this is a fairly generous compromise relative to how we are treating other companies within the model.

**Excellon Resources** – The company's flagship Platosa project is very high grade (almost \$700 per tonne rock at current metal prices) and operates at a low cash cost of about \$5.30 per silver-equivalent\* ounce. The defined measured and indicated resources, however, only allow for 8 years of mine life even if 100% is assumed to be mined. For now only mother earth knows whether or not the deposit can be expanded significantly or new nearby discoveries can be made. If the company can significantly extend the mine life, it starts to look quite undervalued. Therefore we see future exploration success as a key driver for the company.

There is also the question of what will come of Miguel Auza, the project Excellon acquired last year primarily to secure a mill to process Platosa ore. For the purposes of our model, we've assumed that Miguel Auza itself moves into production in 2013 according to the parameters set forth in the 2008 technical report completed back when Silver Eagle Mines still owned the project. Taking away future Miguel Auza production shrinks the base case valuation target from C\$0.83 to C\$0.68 per share.

*\*When we talk about cash costs in terms of silver-equivalent ounces, what we are attempting to do is standardize the cash cost calculation to avoid the confusion that occurs when comparing pure(r) silver producers (First Majestic, Pan American) with poly-metallic silver producers (Silvercorp, Hecla). Some poly-metallic producers generate a significant by-product credit and net it against their production costs to come up with a cash cost net of by-products. Such calculations can and do result in "negative cash costs" for the primary metal but in our opinion this tends to mislead and confuse investors especially when making comparisons.*

*Consider a pure silver producer that mines silver at an operating margin of 75% (e.g. cash cost of \$4/oz at \$16/oz silver) – that’s a major achievement but the cash cost is not negative. Now consider a poly-metallic producer with an operating margin of 60% **after** accounting for 50% of their production as a by-product credit. Such a poly-metallic producer can claim to have a lower, even negative, cash cost for silver despite having a smaller operating margin overall (not to mention less silver production) than the pure(r) silver producer. We intend to publish more on this subject in the near future.*

**Great Panther Silver** – With two underground mining operations in Mexico, Great Panther is often compared to First Majestic and Endeavour Silver. Of the three, Great Panther shows the most theoretical upside and boasts the highest average ore grade. Investors need to be aware, however, that Great Panther is at an early stage in its growth cycle with development risk, minimal defined resources and current annual production of less than 3 million ounces silver-equivalent. While this is an ideal stage to buy a mining company, disciplined speculators will first look for signs of success to help handicap the odds of success.

Assumptions contained in our model are consistent with Great Panther management’s baseline expectations, but we are concerned some may prove too aggressive. For example, our model assumes a 10 year mine life at Topia and a 5 year mine life at Guanajuato, which relies upon complete conversion and then some of currently defined resources (including inferred) into the mine plan. We’ve also assumed that head grades will trend towards the average defined resource grade even though past production has tended to be lower grade. Therefore the head grade figures will need to be closely monitored going forward. If no meaningful improvements are being made, we would need to revise some of the key assumptions downwards and this would have a significant negative impact on our valuation targets for Great Panther.

It is worth noting that Great Panther is not the only company within our model that should be viewed with a certain amount of skepticism. Future installments of the model will report our efforts to reconcile actual head grades, payable production, etc. to the mine plan assumptions in order to test the reasonableness of the data for every company. We will unceremoniously punish companies in our model that fail to meet expectations and/or have an ongoing history of underperformance.

**Silver Wheaton** – This one is a market darling, and for pretty good reasons: the company’s silver streams are well-structured, based around high quality projects for the most part, and there is no income tax! Quite frankly we were unaware that Silver Wheaton’s incorporation in Barbados and the Cayman Islands is able to almost completely avoid the tax man. Don’t believe us? Take a look at page 52 of the company’s [2009 Annual report](#): \$118 million net income and zero taxes paid. Since the proceeds received from the sale of silver streams are recognized as deferred revenue on the books of the miners and taxed over time at a fixed rate regardless of the silver price, Silver Wheaton seems to have discovered a wonderful little tax shelter as well as a great way to unlock value from by-product silver that would otherwise have likely been hedged and thus depressed silver prices.

One consideration to keep in mind about the favorable tax structure, however, is what happens if the price of silver skyrockets such that mining companies with silver streams end up paying much lower taxes than their in-country peers who have not done similar

deals. To be more specific, in an environment of elevated silver prices (our collective expectation, no?), tax jurisdictions where the mines operate are being effectively shortchanged due to the Silver Wheaton deal structure, and there might be consequences in the form of regulatory remedies or special tax assessments.

In any case, Silver Wheaton looks quite overvalued in our model even despite the tax advantages, but that doesn't mean investors should not consider owning the company as it is likely to get more overvalued with a rise in silver prices. On the other hand, if an investor is looking for the greatest leverage to higher silver prices, we believe there are some better choices highlighted by our model. As an aside, we are currently building a database of royalty companies that will include the likes of Franco-Nevada and Royal Gold, and it should be quite interesting to see how Silver Wheaton stacks up against its royalty peers.

### **Peer Group Analysis**

We've had a chance to go over our data multiple times now and have also received feedback from several of the companies featured in this analysis. Partially as a result of this process, we've made some refinements to our model to bring the base case valuations more in line with market perception. For example, in this revised version of the report we've more accurately accounted for depreciation and amortization expenses, which has the effect of lowering, sometimes significantly, the tax burden of the companies contained in the model.

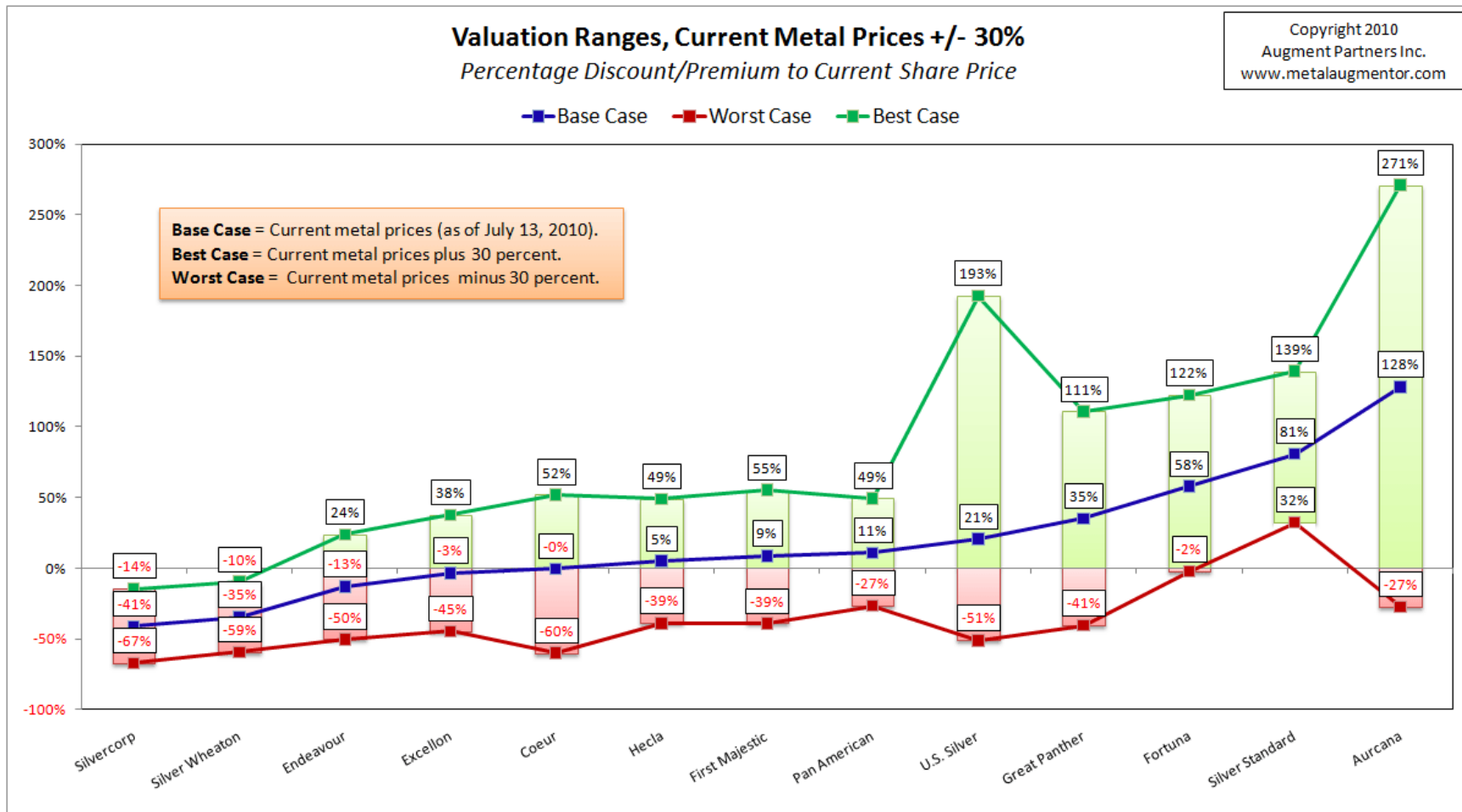
It would be helpful to become familiar with the following terminology when analyzing the various charts and tables contained within this report:

- Base Case = current metal prices (as of July 13, 2010)
- Best Case = current metal prices +30%
- Worst Case = current metal prices -30%

Note that each case is dependent entirely on changes in metal prices and is not company specific. This allows direct peer-to-peer comparisons. Additional definitions follow on the next page.

Term	Definition
Ag-Eq. Production Cost, \$/oz	The cost of producing each ounce of silver after converting all by-product production into silver-equivalent production using current metal prices.
Breakup Value: BV	Net value of liquid assets (e.g. cash and securities) less outstanding debt and other significant liabilities (e.g. underwater hedges).
Discounted Leverage	Leverage minus Payback. In other words, this punishes companies whose projects take longer to pay for themselves (i.e. large Payback ratios) and have lower LOM cashflow (i.e. small Leverage ratios).
Enterprise Value: EV	Market capitalization minus breakup value.
Gross Annual Production Value (GAPV)	Gross annual revenue of a mining operation.
Leverage	Weighted Average Mine Life/Payback, i.e. estimated number of times payback can be achieved during the remaining life of a company's mining operations.
Treasury Method: TM	Accounts for any in-the-money warrants and options in market capitalization, enterprise value, and other similar "value" calculations.
Overhead Coverage	Annual production margin value divided by overhead expenses, i.e. a measure similar to the interest coverage ratio, only this looks at how many times over the cash flow from future production is likely to cover overhead expenses (does not include exploration expenses).
Overhead Dilution	Annual overhead expenses as a percentage of the current market capitalization, i.e. the minimum inflation rate of the company's currency (i.e. stock).
Payback	(EV + Total Discounted CAPEX)/Average LOM Production Margin Value, i.e. estimated number of years it will take for a company's combined operations to achieve 100% combined return on equity and investment.
Production Margin Value (PMV)	Net operating cash flow, excluding capital charges, of a mining operation.
Tax Assets	Depreciable, depletable, and amortizable assets and other tax assets/liabilities that will have the effect of lowering or raising a company's tax burden (e.g. DD&A expenses would lower taxable income).
Total LOM Discounted PMV	Cumulative total discounted cash flow, excluding capital charges, for the life of a company's combined mining operations.
Weighted Average (WAVG) Realized Production	Average life in years of a company's combined mining operations scaled by their relative contribution to total discounted cash flow.
WAVG Production Mid-Point	The year in which a company's combined mining operations, scaled by each operation's relative contribution to total discounted cash flow, have been 50% depleted.
WAVG Realized Production Start-Up	Point in time at which a company's average mining operation will have entered commercial production. Calculated by scaling each project's relative contribution to total discounted cash flow and then adjusting for each project's assumed start-up date. NOTE: If all mines are currently in production this value will equal the current year.

*Note: Charts are typically arranged such that the most desirable company will appear on the far right side, and the least desirable on the far left side. "Desirable" is based on the criteria used in that chart, not "desirable" from the perspective of the company necessarily being a good buy overall.*



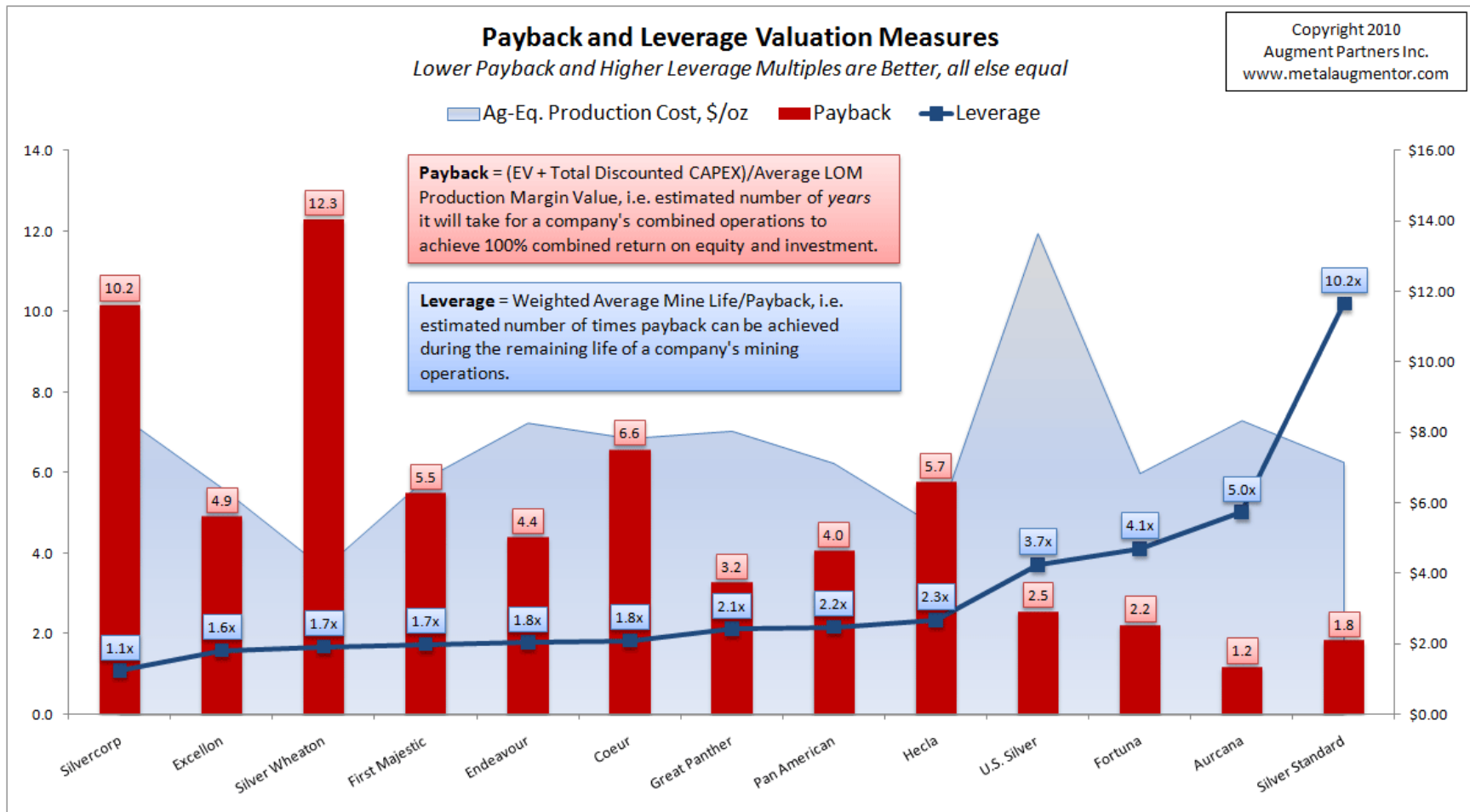
Despite the ongoing weakness in mining equities, on average the silver producers in our model appear fairly valued at current metal prices. The notable exceptions are Aurcana (TSX-V: AUN), Silver Standard (NASDAQ: SSRI), Fortuna Silver (TSX-V: FVI), and Great Panther Silver on the undervalued side and Silver Wheaton and Silvercorp (TSX: SVM) on the overvalued side. Meanwhile, U.S. Silver (TSX-V: USA) has the best leverage to a rise in the price of silver according to our model, but please be sure to recognize that leverage works both ways as illustrated by the red figures in the above chart. If Aurcana's operating plans work out as anticipated, it appears to have the most significant upside from the current point as long as metal prices rise or at least remain at present levels.

Please note that more mature companies such as Silvercorp and Silver Wheaton tend to have narrower valuation bands, which indicates less leverage/susceptibility to changes in metal prices, while less mature companies (those with significant development projects and/or limited operating histories) such as U.S. Silver , Great Panther, and Aurcana tend to have very wide valuation bands, suggesting not only high leverage to metal prices but also the potential reward that accompanies achieving operating plans. Alas, mining companies in general have a poor track record of meeting their own stated goals and therefore it is important to evaluate management and other qualitative factors before taking charts such as the one above purely at face value.

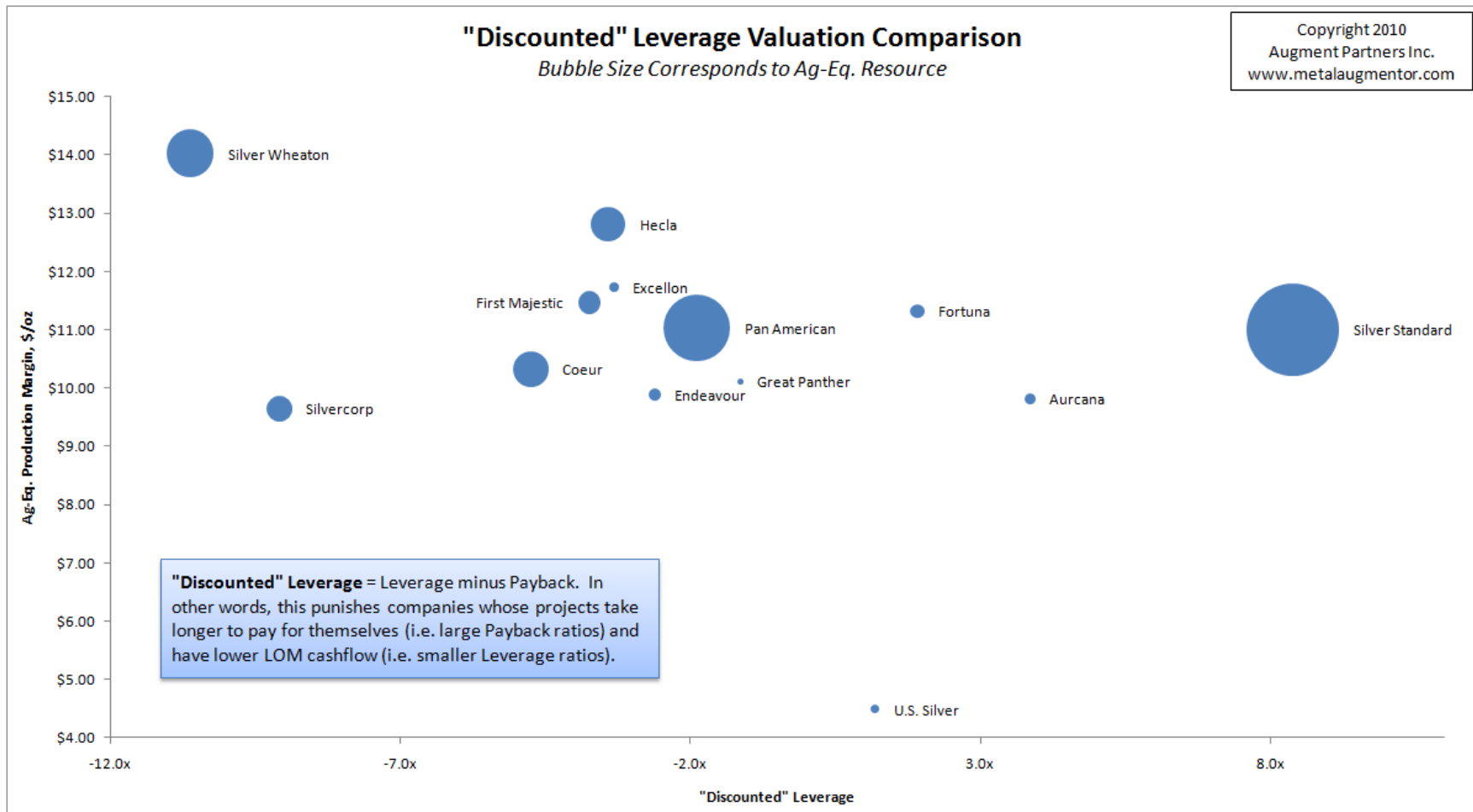
In addition, please be aware that there are a lot of data and critical assumptions built into our model about which the above chart says little, so a chart should never be used in isolation. The chart does, however, serve the ultimate purpose of helping identify (1) companies that might be presently undervalued or overvalued in relation to their peers and (2) companies that have the greatest leverage to rising metal prices (or that are most vulnerable to a drop in metal prices).

There are also unique risks, caveats and unquantifiable value drivers (exploration upside, management competence, potential to extend mine life beyond current mine plans, etc.) for each company that simply cannot be captured by any model. In other words, don't take the charts in this or any other quantitative analysis as gospel and do conduct research beneath the façade to get a fuller sense of the story behind the numerical presentation regardless of whose work it is.

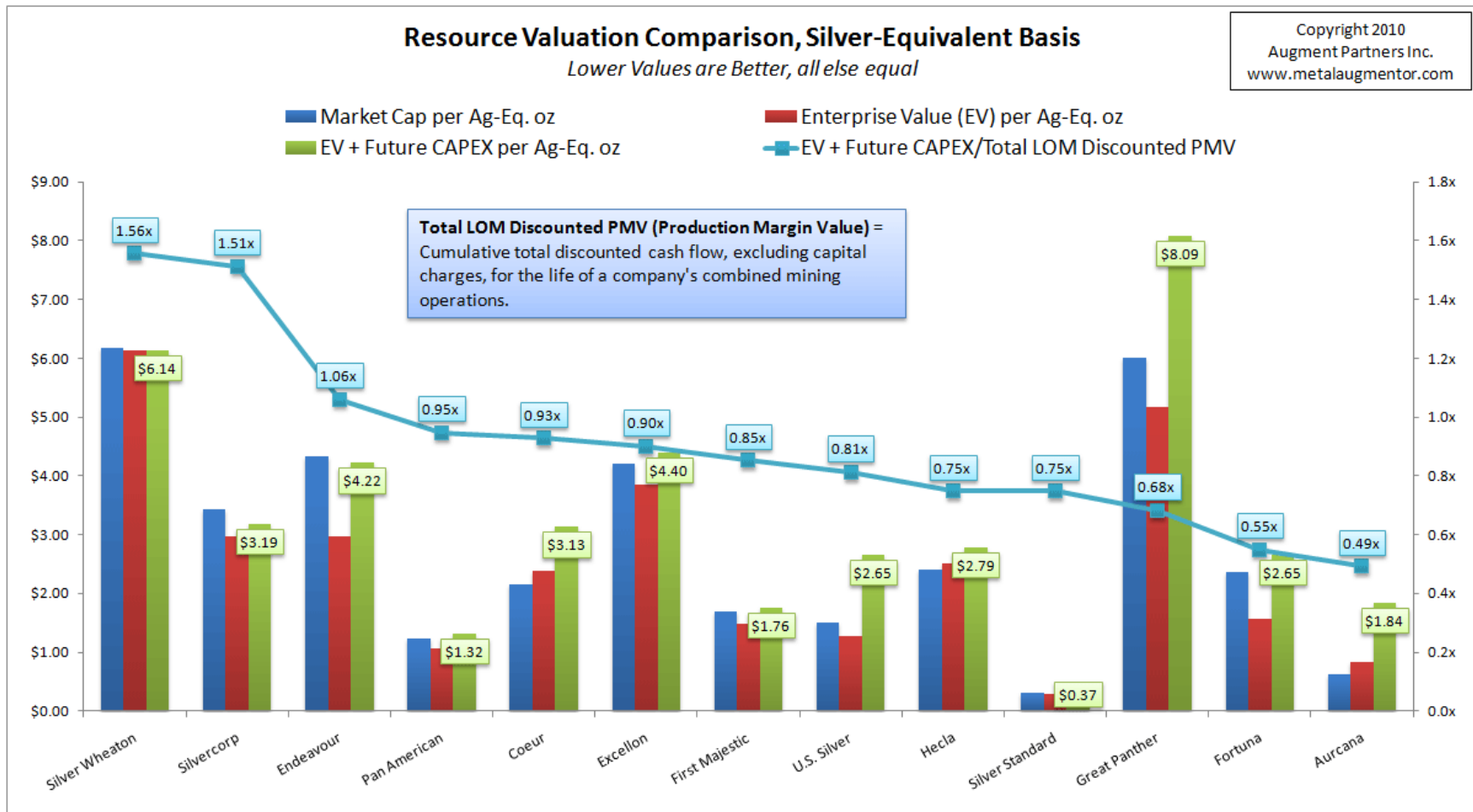
On the following pages you will find several comparative presentations based on various metrics that we believe are relevant to the peer group of silver producers currently in our model. These charts are among the most useful, comprehensive and refined that have ever been shared with the investing public. While powerful, the charts do have their limitations as noted above, so please use them responsibly!



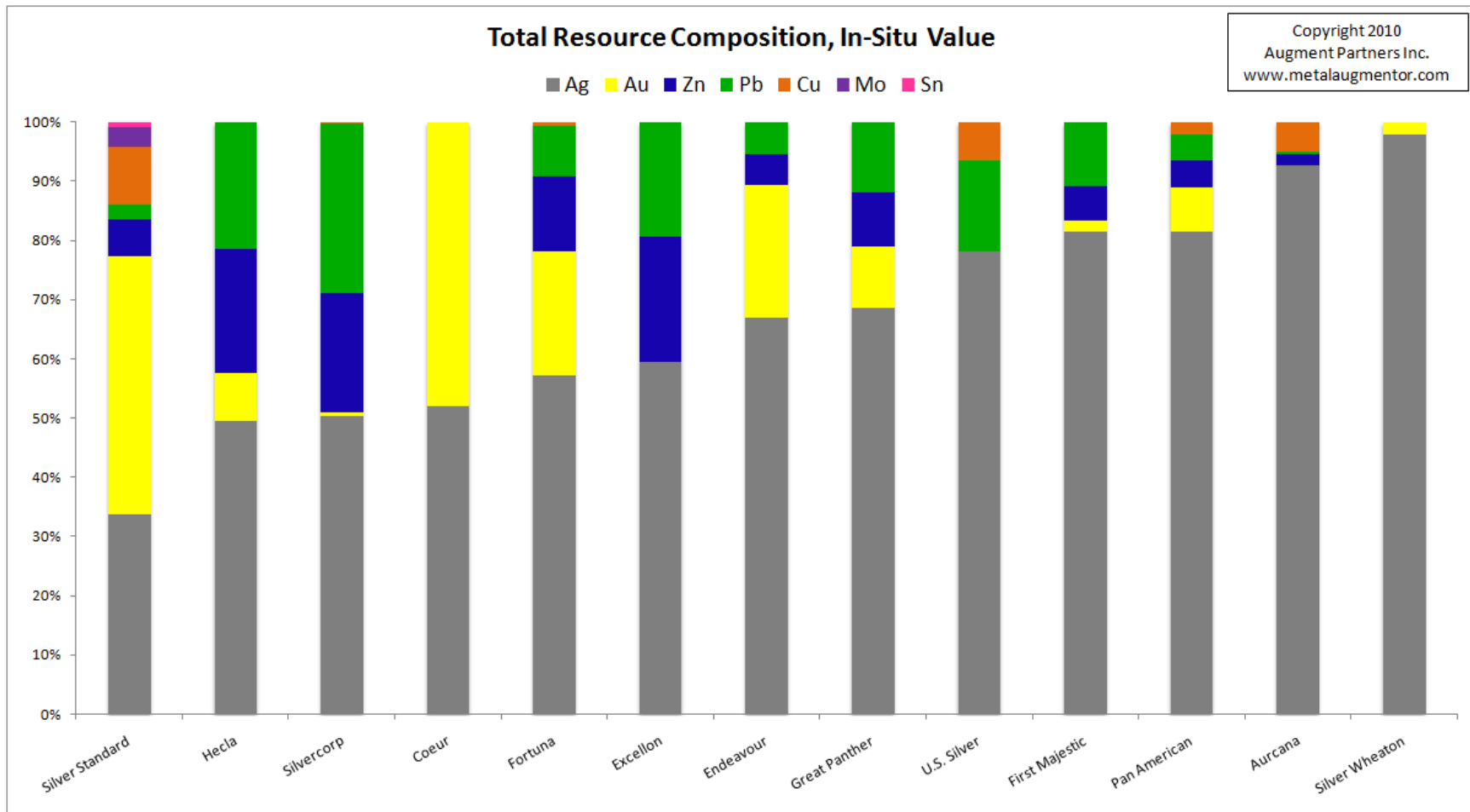
The above chart is a bit mysterious but it becomes much less so if you take the time to understand the terminology involved. We believe our Leverage and Payback figures might be among the most important quantitative factors that investors should consider before investing in a mining company. These measures combine operational effectiveness and mine life to distill the essential goal of a mining company, which is long-term mining *success* (consistently making money). Lack of modeling by other analysts of comparative mining “success” is what originally prompted us to develop our proprietary peer valuation model last year. In any case, Silver Standard, Aurcana, Fortuna, and U.S. Silver have Leverage and Payback measures significantly better than their peers. Silver Wheaton’s Payback is the worst of the group, but like Silvercorp its flagship assets have potential for very long mine lives (not currently reflected in mine plans). Similarly, First Majestic’s position on the chart does not reflect its very significant resource base.



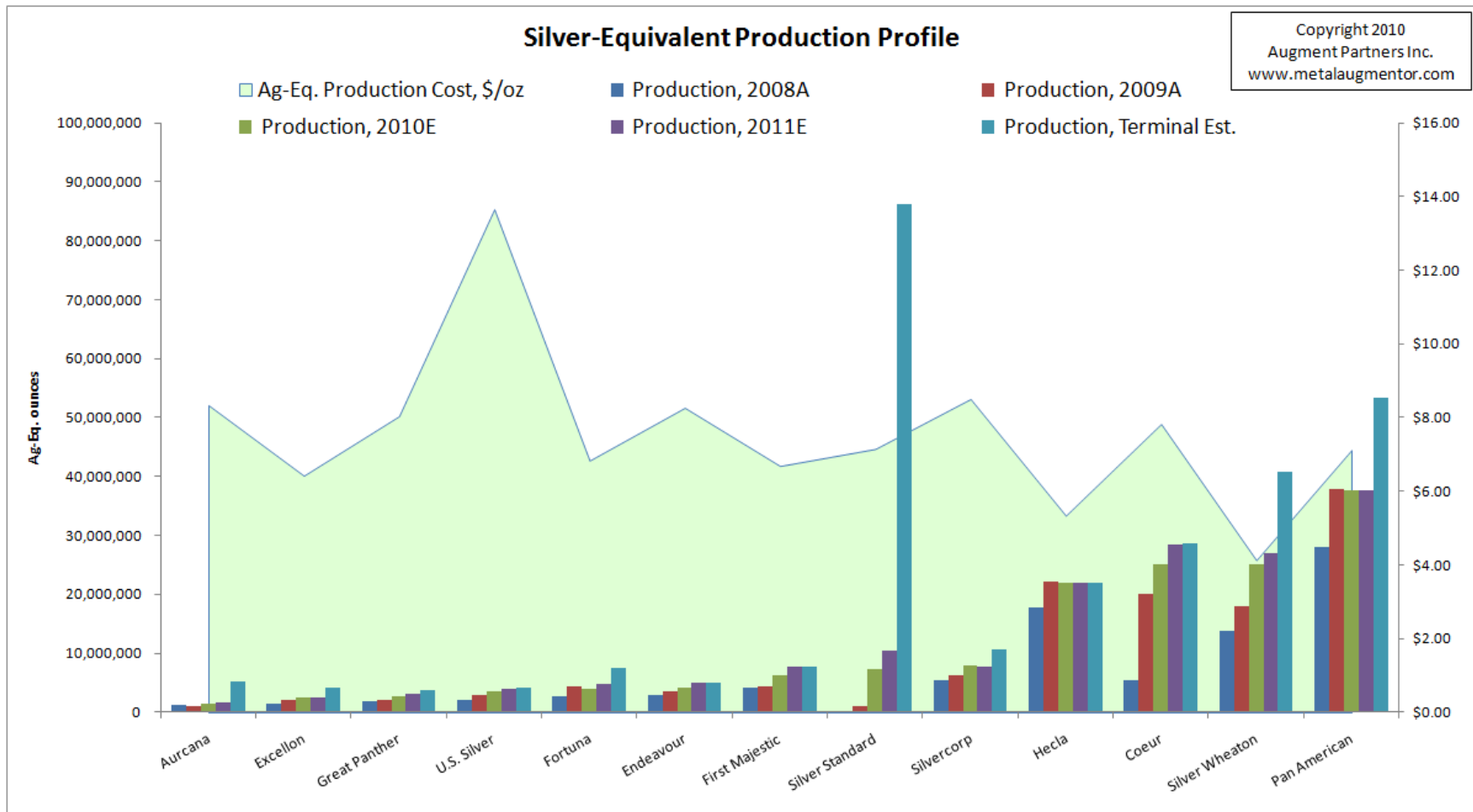
The best place to be in the above chart is the top right-hand corner. As such Silver Standard, Fortuna, and Aurcana are the clear standouts, with most of the others clustered together except for outliers Silvercorp, Silver Wheaton, and U.S. Silver. The premiums paid by the market for Silver Wheaton and Silvercorp can be explained in part by high and stable operating margins (Silver Wheaton) along with asset quality combined with exploration potential (Silvercorp), but in our opinion it is difficult to justify the full extent of the valuation gap.



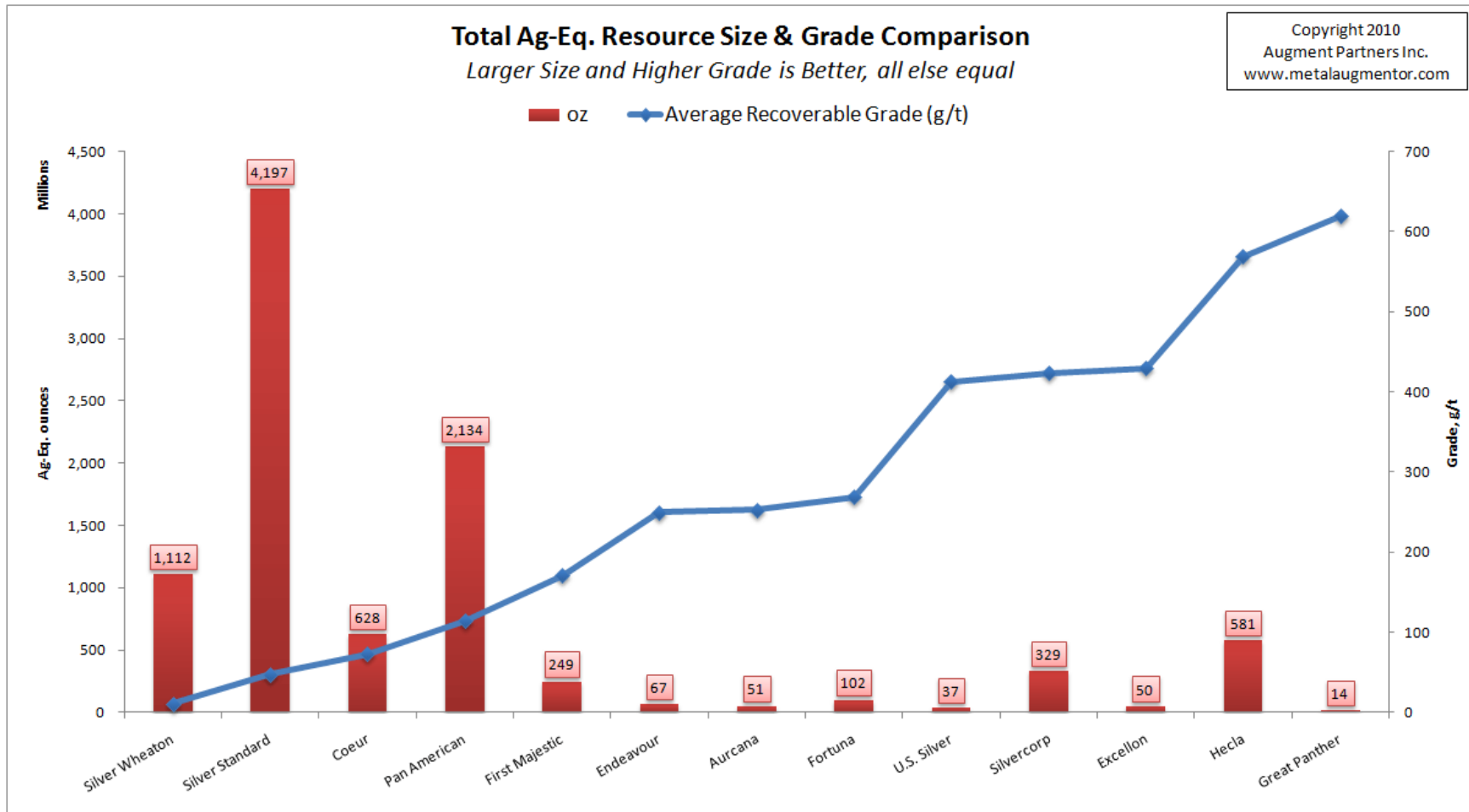
The above chart shows a number of resource valuation measures, each one being more inclusive of operational factors compared to the prior one. The most inclusive measure of EV + Future CAPEX /Total LOM Discounted PMV appears as a blue line. Silver Standard's enormous resource base at the Snowfield/Brucejack project is the cause for the low "value per ounce" measures. Meanwhile, Great Panther's limited current resource base results in very high "value per ounce" measures. It should be noted that Great Panther is undertaking a very large resource definition program during the next several years that could remedy this "shortcoming". The fact that Silver Wheaton's bars are so similar is due to the fact that it has very little future CAPEX requirements since a payment is made up front to acquire the silver streams.



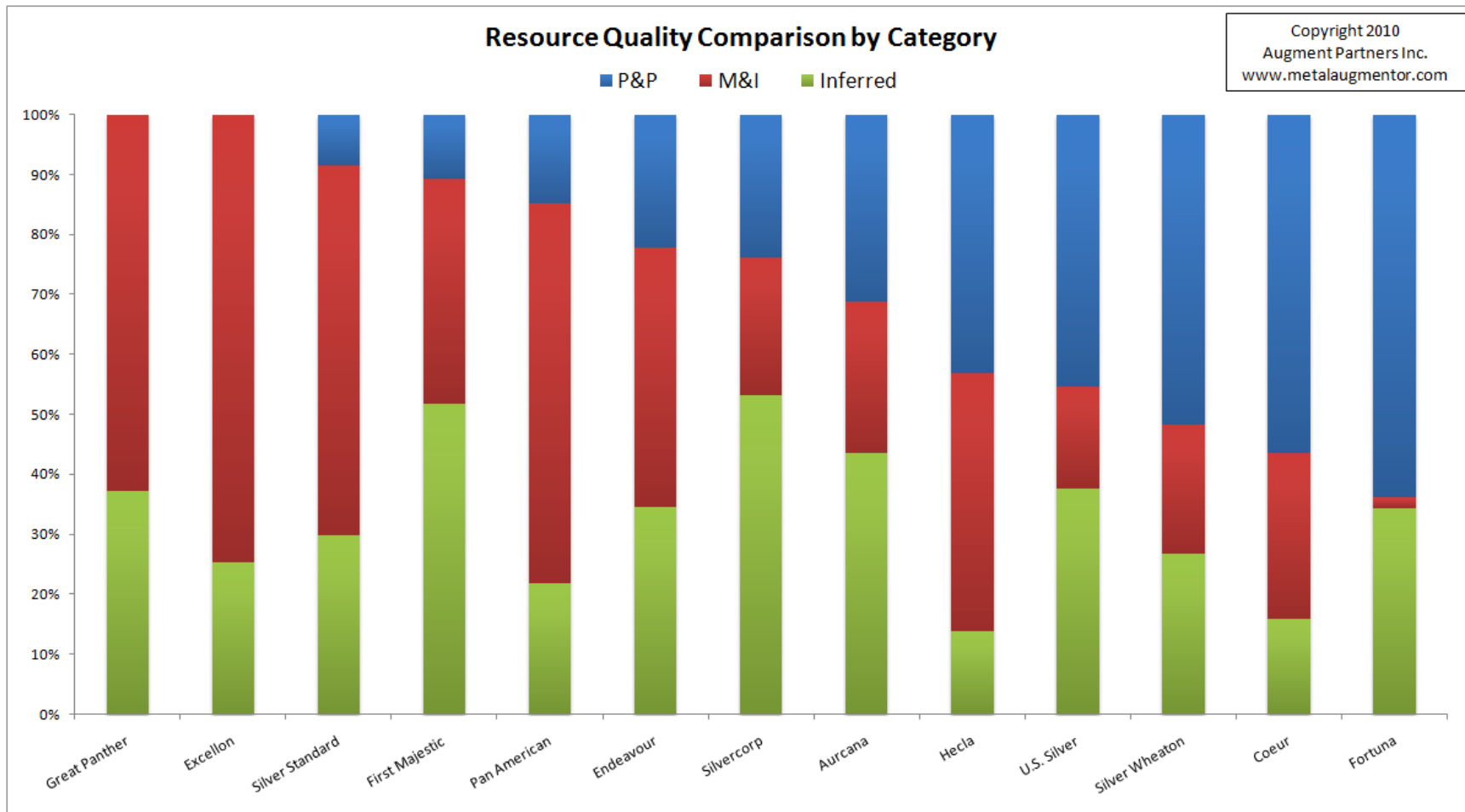
The above chart breaks down the relative contribution of each metal to the company’s global resource base. One can clearly see the distinction between pure(r) silver companies like Silver Wheaton to by-product heavy companies like Silvercorp, Hecla, Excellon, and Fortuna. To the extent gold exposure is more acceptable for a precious metal miner compared to base metal exposure, the most desirable companies from the perspective of resource composition are Silver Wheaton, Coeur, Endeavour, Pan American and Aurcana. The importance of resource composition should not be understated as a qualitative factor especially if precious metals are expected to outperform the metals as a group in general going forward.



The above chart is arranged in ascending order of projected 2010 production. Silver Standard’s terminal period silver-equivalent production is almost off the chart due to the massive Snowfield/Brucejack project, but we should note the likelihood of this project going into production within the foreseeable future is very low (we expect Silver Standard will instead monetize the project). Note the high operating costs for U.S. Silver compared to the surprisingly consistent figure of \$6 to \$8 per ounce for most of the other silver producers. The production cost used in this chart allows a direct comparison between companies since it is shown on a silver-equivalent basis and not on the basis of by-product credit that can result in impressive but meaningless “negative cash cost” for silver production alone.



While Silver Standard stands head and shoulders above the competition in resource size thanks to the massive Snowfield/Brucejack project, without that project the global resource shrinks to about 1.85 billion silver-equivalent ounces, which is still impressive but more on par with Pan American. Silver Wheaton’s 1 billion ounces of tax-free silver exposure is impressive but a market capitalization over \$6 billion still doesn’t leave much upside beyond what direct ownership of silver bullion would likely provide. Although the chart seems to imply that Silver Wheaton has very low-grade projects, this is deceptive and purely a result of how we’ve had to build the company’s unique royalty structure into our model. In any case, the grade of Silver Wheaton’s silver production should not be a concern for investors because of the way the silver streams are structured.



Fortuna wins the award for highest quality resources, bolstering our view that the company represents one of the most certain values in the silver producer universe. Excellon, despite being in production, has no reserves due to its approach of essentially test mining while looking for the “big one”. Great Panther to date has not spent a great deal of effort to delineate a long-term mine plan but the company is embarking on a mine development strategy over the next two years.

## Conclusion

The silver producers in this latest version of the model are generally expected to leverage rising silver prices but some companies are more leveraged than others. In the grand scheme of things, our report reveals that most silver producers are not screaming buys at current prices. Therefore, we believe the key to gains from silver producers in the short to medium term will continue to be value-conscious selectivity and market timing.

After taking all of the above charts and qualitative factors into account, in our opinion the best overall value among silver producers appears to be Fortuna followed by Silver Standard. Fortuna looks good all-around in our model with perhaps the only significant knock being that it has significant base metal exposure at its Caylloma mine in Peru. That said, exploration upside at Caylloma includes the potential to discover major silver and gold vein systems and indeed the company has been increasing the proportion of silver production in recent quarters. Although Silver Standard has fallen out of favor with some investors, its large resource inventory should leverage rising precious metal prices while the company works out the transition kinks to becoming a silver miner.

First Majestic doesn't look quite as interesting as it did in earlier versions of the model but if it can increase production at projected rates and continue to bring its large resource base into the operating plan, the share price should do well. Second quarter operating results will provide a useful peek at what to expect going forward. Although further upside appears limited at the moment, we are applying fairly conservative assumptions to its La Parilla operation and there is room for improvement there. As First Majestic moves away from the group of sub-5 million ounce mid-tier silver producers, it could start seeing a premium applied to some of its valuation metrics like the silver "majors" such as Hecla, Silver Wheaton and Pan American.

Aurcana is enticing as well, but we still need to look much more closely at Shafter from an operational perspective to fully understand the risks and opportunities. Our analysis of the Shafter project in the past did not leave us very impressed but we recognize that Aurcana has done a significant amount of recent work that should be taken into account. We'll be doing so in the weeks ahead and plan to have a report for Metal Augmentor subscribers.

As a shorter term speculative punt predicated on leveraging a rise in silver prices in the immediate future, U.S. Silver appears prospective to us given the few development hurdles remaining to be cleared along with the possibility that mining operations will finally be tamed and stabilized. One disappointing bit about U.S. Silver is that we have not been able to reconcile the shortfall in head grades despite our request for help from management. Therefore we have little idea as to how and when exactly to expect further operational improvements. As long as U.S. Silver is not able to consistently mine at grades approaching those found in the technical report, its mining operation cannot be considered a success and the company will likely remain undervalued in our model. That said, U.S. Silver may be close to gaining credibility in the market as a profitable silver producer if it can string together several quarters of good operating results. This could result in a re-rating of the company that significantly reduces the valuation gap.

If it can make good on its growth plans, Great Panther looks interesting in our model as well. Yet the valuation range based on many of the metrics presented in this report is not dissimilar from Fortuna, which is an obvious top pick. Given the grade uncertainty at Great Panther's Guanajuato mine and the somewhat generous mine life assumptions being applied in our model, we would wait to open a position until further confirmation can be made that (1) mine plans are developed verifying assumed future production rates and (2) head grades will improve toward the average grade of the defined resources.

Finally, companies with solid operations in the recent past, decent valuation on the basis of cash flow from mining operations and the highest exposure to precious metals may be worth considering in portfolios where lower risk trumps valuation considerations. Silver Wheaton, Endeavour Silver, and Pan American appear to be the most desirable from this perspective while First Majestic also deserves a mention. Coeur faces too many operational uncertainties for now while Hecla, Silvercorp, and Excellon all have significant base metal exposure and therefore none of these companies arguably belongs in the lowest risk group on the basis of qualitative factors.

**NOTE: This report reflects a snapshot at a specific moment in time of selected silver producers. Market conditions can change rapidly and what looks overvalued today could become a bargain tomorrow and vice versa. The beauty of our model is that it adjusts automatically to changing metal and share prices and this allows us and our subscribers to stay on top of things from a valuation perspective at all times. We are currently working on incorporating our model into a web-enabled database format that will generate updated peer valuation results for subscribers on demand. All data contained within this report are current as of the latest financial statements for each company (March 31, 2010). Our model calculations were made using closing share prices and commodity prices as of July 13, 2010.**

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*Disclaimer: We currently own shares in Fortuna and Silver Standard but none of the other companies mentioned in this report. We will be looking to buy more Fortuna and Silver Standard as market conditions warrant it. First Majestic also looks interesting (particularly for patient investors with a long-term investment horizon) and we would be opportunistic buyers on a pullback. Further analysis or information is warranted before we will consider making speculative buys in U.S. Silver, Aurcana or Great Panther. No compensation has been received for this report from any party. This is not investment advice, a recommendation or solicitation to buy or sell shares in any company. We are not licensed investment advisors; please seek the advice of an investment professional or broker before investing. The information and data contained herein is being presented solely as a service to help investors conduct further research. We believe the data comes from reliable sources but it may not be current and material changes in a company's financial position could have taken place since the as-of date of this report. Before making an investment decision, you or your licensed investment advisor should personally verify all information that you are relying upon. We are not responsible for the results of any investment made on the basis of the data presented herein, nor are we responsible for any errors or omissions (though we strive for accuracy and completeness). We disclose our own investment position or relationship in all companies.*