



! CAUTION ! MARGIN CALL AHEAD

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Tools for Effective Gold & Silver Investments

Impact of 'Margin Requirement' Changes on Silver and Gold Prices

The great fall of silver (and to a lesser extent, gold) during early May, 2011 has been triggered by the COMEX decision to increase margin requirements. We have seen a series of revisions in margin requirements by COMEX historically. What kind of impact do changes in margin requirements have on prices? This report investigates the changes in margin requirements and their impact on prices. Let's begin with some basic observations and definitions.

A margin is collateral/security that the holder of a futures contract has to deposit to cover the credit risk (potential losses the holder may incur) of the exchange (or sometimes the broker too). Initial Futures Margin is the money required to open a position on a futures contract. Margin Maintenance is the money required to bring the margin back to the initial level when a loss reduces the credit risk covered by the initial margin.

For example, suppose the margin on a gold futures contract is \$2,000 and the maintenance margin is \$1500. When you buy a gold contract you will be required to deposit \$2,000 as the initial margin. If the price of gold drops such that your position's worth drops by \$550, your margin deposit shrinks to \$1450 (\$2000-\$550). When such a breach of the maintenance margin (\$1500) occurs you will be required to deposit the deficit (\$550) to bring back margin deposited back to the initial level. In general, margin shock deters speculation, lowers participation and almost immediately impacts prices. Higher margin means lower leverage and higher investments required for market positions. This means smaller players and speculators who do not have the capacity to hold on to long term positions have to square off their positions. However, the surprising thing is that little has changed – fundamentals still remain the same and the margin amount still remains in the same range in terms of percentage of total future contract value.

Let's take a historic view in this regard.

Historically, margin increases have almost always led to immediate corrections on slowing down of speculative interest – a higher margin being a deterrent to increased levels of market participation. Also, margin increases tend to happen in a series of closely followed changes because new margin requirements lead to volatility changes. Significant decreases in prices imply people short on silver (for example) have significant unrealized losses. The earlier margin (a cover for potential losses) may no longer be a sufficient cover and margins get raised again. The cycle continues in steps until only more serious and long-term investors (and hedgers) remain. Effectively, what an increase does is to snuff out the noise and realign prices to a more fundamentally sound level. **Long-term investors who have been following the signal and not riding the noise should not be perturbed by this. If anything, such a correction augurs well for fresh investments at lower levels as long-term prices still follow fundamentals.**

Let's see how!

Before we dive into an analysis of how margin changes impact prices, it is important to understand how and why margins change. Margins are there to reduce the risk/ exposure of the exchanges. A margin is an assurance that in the event of losses to the traders, the COMEX can offset them against the margin. If the trader has potential losses greater than his margin and he does not come up with cash to cover his losses, the exchange stands exposed to them. Potential losses (chances to make losses) increase with an increase in volatility or, as in the current case, after a buildup in prices, when the exchange feels a prolonged unidirectional movement may lead to the booking of profits and hence a sharp change in medium-term prices.

The likelihood of price fluctuations does not depend on the price. But the magni-

tude of price fluctuations is directly proportional to prices. Hence, when prices enter a new regime (certainly the case with silver), margins are liable to be changed. The likelihood of price fluctuations is determined by volatility. Therefore, **a spike in volatility also calls for margin changes – such changes alter the margin amount in terms of the percentage of total future contract value. This is more concerning and has a bigger impact than that due to an increase in prices.**

What do these numbers suggest?

In our attempt to understand the impact of margin changes on silver prices, we did a regression between the two key variables in the analysis – magnitude of margin changes and a measure of change in the price direction. Changes that happen in groups (such as a series of changes within the span of days) are cumulated. The impact on prices of such a series of changes is combinational in effect, hence in the study it should also be considered as one event.

The restrictive part of the regression analysis is the lack of number of data points. Numbers from the analysis have to be taken with a grain of salt – only 14 data points (margin changes) since Jan 2009 rules out really conclusive regression analysis. Nonetheless, it gives a clue to trends!

Changes in margin requirements are easy to calculate – they are readily available numbers and are therefore untouched. The dependent variable in the analysis is a change in direction of prices. Simple changes in prices cannot be a good measure of the short term impact of margin changes.

What we measure in the analysis is the periodic change in returns before and after such a margin change has been effected. For instance, when we take a one week impact of such a change, we measure change in returns as the difference

between: returns from margin change to 1 week after and from 1 week before to margin change. To observe impacts across the short, medium and long term, we have taken the following time periods – 1 week, 1 month, 3 months, 6 months and a year.

As we have emphasized, the number of data points is extremely small. So, any outlier or exceptions to a rule could potentially interfere in the regression analysis. That, and the fact that we are only worried about increases in margin (and not decreases), imply that we take out negative margin changes from the equation. Why are we not interested in decreases in margin requirements? Well, the number of points we have to carry out such an analysis is sparse because there has hardly been any recent decrease in margin requirements (or even historically). Whatever data we have on past occurrences of margin decreases is correlated with a neutral reaction in prices, but even that is inconclusive!

Our analysis also shows the average difference between returns a week before and a week after a positive margin change is 4% (i.e. prices after a positive margin change move 4% slower than before, when a week's impact is considered). This is as expected. The aberration occurs in three cases where margins were reduced. Although such a move is not expected to slow down prices, we still observe a 3% slowdown in prices. So, we have taken out this aberration from our regression analysis.

What do numbers tell us? Well, if you are not too inclined toward numbers, then you may skip the rest of this paragraph knowing this: **our analysis shows what's expected. The impact of a margin hike is bearish in the short term (one week to one month). Beyond a month the drag due to a margin change ceases to exist (in fact prices rise significantly 3 months and 6 months after such an effect if they are in a bull market).** When interpreting the results below, keep in mind that a high R square and a low p-value imply statistically reliable results. Statisticians consider a model to be significant if the p-value is less than 0.05. A p-value of greater than 0.10 usually suggests that the regression model is not statistically significant. Our p-values suggest that 1 week and 6 month models are reliable, which means most of our conclusions based on the results obtained will hold true.

The coefficient graph (Chart 1, Chart 2, Chart 3, Chart 4) shows the relationship

between the two variables. Negative implies an inverse relationship – positive margin changes and a resulting slowdown. The magnitude of the number is indicative of the strength of the impact. Also remember, the greater the number of points, the more certain we are that this is a generalizable conclusion.

Silver and Margin Changes

A postmortem might explain our conclusions. A cursory glance at the table (Table 2) below explains the short-term nature of margin change on silver prices. However, an in-depth analysis is required to determine the true extent of such a change.

May 2009 – margin changes by a moderate 17%. There is no sudden dip in prices. Prices gradually dip for a month and the impact wears off only 3 months after the change. The dip in prices is not huge, but is long lasting because the economy is on the way out of a recession and markets remain cautious. The market sees two huge drops in margins in Jun 2009 and Aug 2009 before prices rise again. This particular change in margin is an 'exceptional case' because of the 'just ended' recession. However, the extent of the downturn caused by the increase is limited as prices have already corrected significantly during the recession.

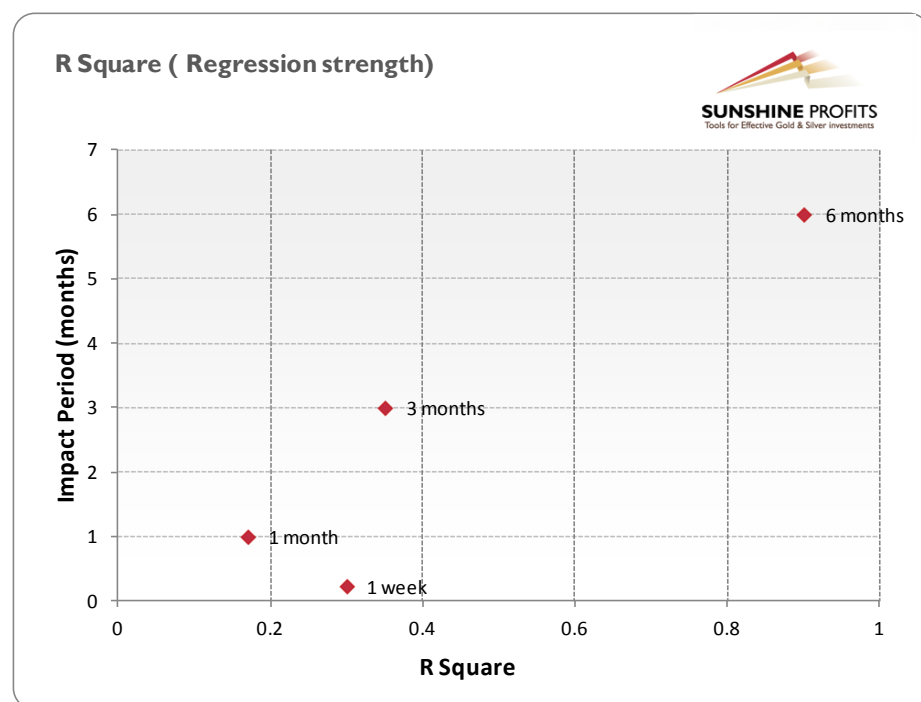


Chart 1: R Square (Regression strength)

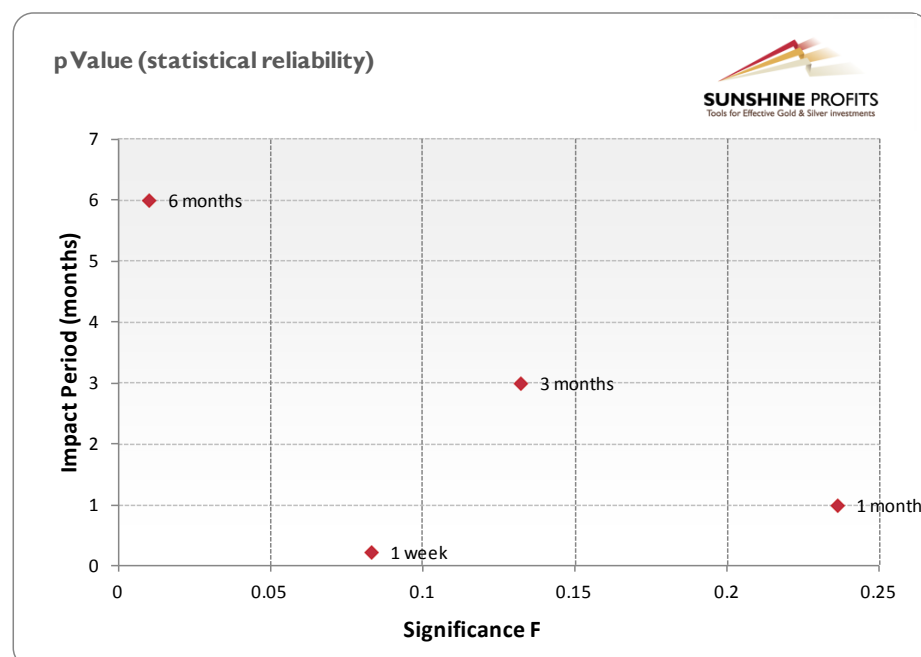


Chart 2: p Value (Statistical reliability)

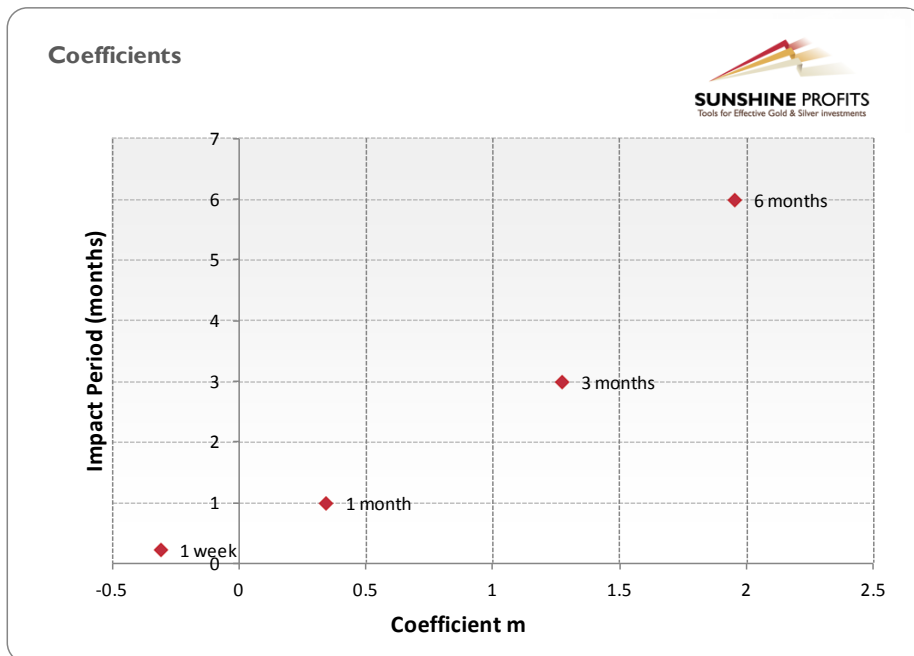


Chart 3: Coefficients

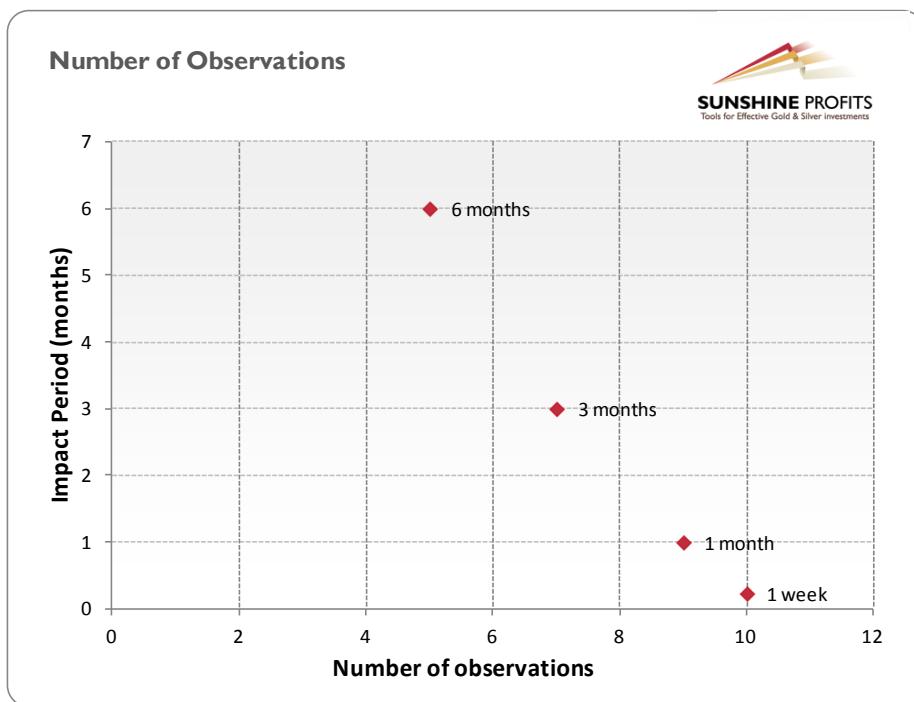


Chart 4: Number of Observations

The next margin hike occurs in Dec 2009 on the back of a consistent recovery in silver prices. Investors are back in the markets after liquidity eases and concerns about economic recovery are alleviated. The margin change is mild and the impact is mild in magnitude. It only takes a month or so to come out of any dip due to the margin change.

In Feb 2010, the hike in margin does not even seem to have a short term impact. Investors are strongly behind silver at these levels. Also, the margin change is mild. Margin increases again in Jun 2010 moderately (this is after a preceding drop in margin). The expectation is a mild im-

act on silver prices and that is what we observe. Short term impact is minimal. Another mild increase in Dec 2010 also has no impact even in the short-term (forget long-term impact).

A big increase in margin occurred in Nov 2010. This, after a huge and sustained rally in prices! Conditions call for a bearish impact in the short term. However, we still do not see a short term correction. Obviously, momentum is strong – silver prices only pause for a little while before going up again. It is only with another change in Jan 2011 that prices correct a bit. But even then, the impact is very short term – the impact of the hike wears off even before one month is over.

A mild increase in margin in Mar 2011 is neutral on prices. Back to back big increases in margin requirements in Apr and May 2011 slash silver prices heavily. This is due to the large hike as well as the fact that prices of silver have rallied strongly over the past few months.

So what does history tell us?

- **Rule One:** long term impact is easily ruled out (even in the case of the first hike immediately following a recession).
- **Rule Two:** the magnitude of change should be significant to impact prices in the short term. Either that or there should be 2-3 small increases over a period of time. Any drop in margin in between erases the effect of previous hikes.
- **Rule Three:** the bigger the rally preceding a change, the bigger the drop, but no impact long term.

Summing up, we average out the returns over the periods before and after a hike in margin (periods such as one week, one month, 3 months, 6 months and one year). The graph (Chart 5) of average indexed prices (relative to the margin change date which is 1), explicitly shows a small slow-down followed by a hike. Long term, trend continues!

In the May 2011 context, silver prices have had a strong bullish rally preceding the margin change; hence the drop has been severe. Also, see the Margin-Silver ratio below (Chart 6). For most of the period of analysis, this has been range-bound. However, after the margin corrections in May 2011, the graph moves well out of its average range. The impact is expected to be greater than usual (maybe further downsides). But still, effects are likely to wear out in the longer term. If anything, this provides an excellent opportunity for long-term investors who might have missed out on the previous rally to join in at lower levels.

Before summarizing, let's have a look at the possible impacts of margin changes in the gold market.

Gold and Margin Changes

Gold is always known to be much steadier than silver. Silver is a volatile metal and therefore reactions to margin changes have also been extreme. Because of the gradual rise in gold prices, the number of margin changes has also been less than that observed in the case of silver.

Regression Equation → Acceleration in Prices (Y) = m * Change in Margin (X)				
Impact Period	R Square	Significance F	X Coefficient (m)	Number of Observations
1 week	0.30	0.083	-0.31	10
1 month	0.17	0.236	0.34	9
3 months	0.35	0.132	1.27	7
6 months	0.90	0.010	1.95	5

Table 1: Regression Equation

Impact of Margin Changes on Change in Silver Prices					
Change in prices calculated as : return from margin change to period after (say 1 week) - return from period before (say 1 week) to margin change					
Change date	Margin Change	1 week	1 month	3 months	6 months
5/9/2011	42.60%	-28.64%	---	---	---
4/29/2011	22.40%	-24.36%	0.75%	---	---
3/25/2011	5.50%	6.31%	38.28%	---	---
1/21/2011	6.50%	-5.02%	11.76%	84.89%	---
12/17/2010	6.90%	2.33%	3.51%	49.90%	---
11/16/2010	41.50%	0.90%	17.93%	47.89%	63.92%
6/7/2010	17.70%	-0.94%	-2.95%	14.49%	55.82%
4/30/2010	-15.00%	-3.97%	2.44%	9.47%	41.05%
2/12/2010	11.10%	4.22%	-9.56%	12.97%	21.86%
12/15/2009	12.50%	-3.16%	0.32%	0.52%	23.39%
8/21/2009	-33.30%	-16.86%	21.96%	27.10%	9.69%
6/26/2009	-14.30%	-5.82%	-4.75%	19.96%	48.12%
5/28/2009	16.70%	5.55%	10.77%	7.59%	52.54%
1/22/2009	-6.30%	15.04%	36.05%	22.59%	-32.46%
Average (for margin increases)	18.34%	-4.28%	6.69%	36.48%	54.05%

Table 2: Impact of Margin Changes on Change in Silver Prices

Our analysis for margin changes and their impact on gold prices shows that gold is more stable than silver after a margin change comes into effect. Of course there is a pause in prices, but there is less fall-out than with silver.

For instance, we observe only a difference of 4% bearish in the returns one week before and after a significant 20% margin hike in Dec 2009 (compare this with silver's 25-30% bearish impacts when met with similar margin increases). In Feb 2010, we observe an even stranger trend – an almost 25% hike in margin saw a roughly 5% one week change in prices, and bullish (Chart 7). More recently, in Jan 2011, margins increased by 11%. There was an observable bearish impact in prices (difference one week before and after) but well below 2%.

Let's have a look at the margin change numbers for gold historically on the CO-MEX (Table 3). Margin changes are infrequent compared to silver. Also, the changes in price are significantly lower than in the case of silver.

The first margin hike occurs in Dec 2009 after an unprecedented rise in gold price during the global recession. The margin change is significant and the impact is mild in magnitude as gold is known to be steady. The small dampening effect also wears off well within a month. Another sizeable margin increase in Feb 2010 after a sustained gold rally does not witness a dampening effect at all. Gold continues to rise after margins are increased. In fact, in this "exceptional" case, we observe a dip one month after the margin change. This is not attributable to the margin hike. Gold prices only pause and correct a bit after a continued phase of unidirectional upward movement. Three months after the margin hike, the correction is over and gold is back to its normal course – up!

Two back-to-back margin increases, one in Nov 2010 and one in Jan 2011, result in a mild dip in prices for a week surrounding the margin change. In both cases, prices are well back on track within a month of the margin change. Clearly, all margin changes for gold have a minor impact on prices.

Conclusions (general observations and current implications)

- Impact of a margin hike is bearish in the short term (1 week – 1 month)
- Beyond a month, the drag from a margin change ceases (in fact prices rise)

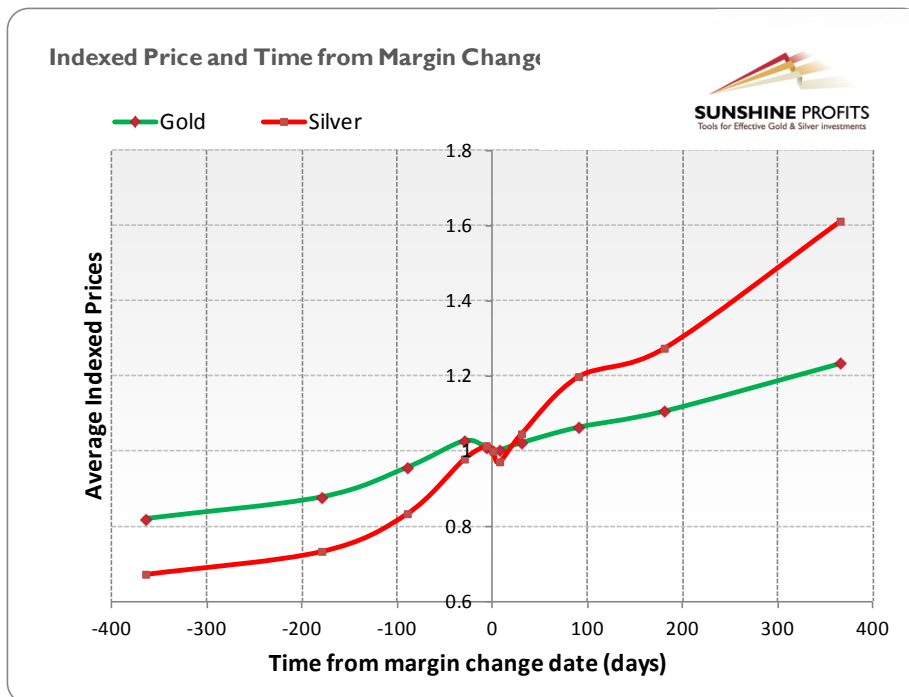


Chart 5: Indexed Price and Time from Margin Change

significantly 3 months and 6 months after such an effect).

- The magnitude of change should be significant to impact prices in the short term. Either that or there should be 2-3 small increases over a period of time. Any drop in margin in between erases the effect of previous hikes.
- The bigger the rally preceding a change, the bigger the drop, but no impact long term.
- Gold is always known to be much steadier than silver. Silver is a volatile metal and therefore reactions to margin changes have also been extreme.

What does this mean to precious metals investors? How should an investor react to news of a margin hike? The bearish impact of a hike is short-term. So, investors will be better off selling silver as soon as such a hike is implemented (certainly within 1-2 days). If the investor has missed selling off silver before it bottoms out (around a week), then he should hold on to his positions as silver remains bearish at those levels till about a month and then rebounds. Investors who manage to limit the downside by selling silver immediately after a hike can repurchase after around a month. Gold investors, on the other hand, will not be severely impacted by margin changes (which are rarer in any case). So, investments in gold can remain intact following margin changes.

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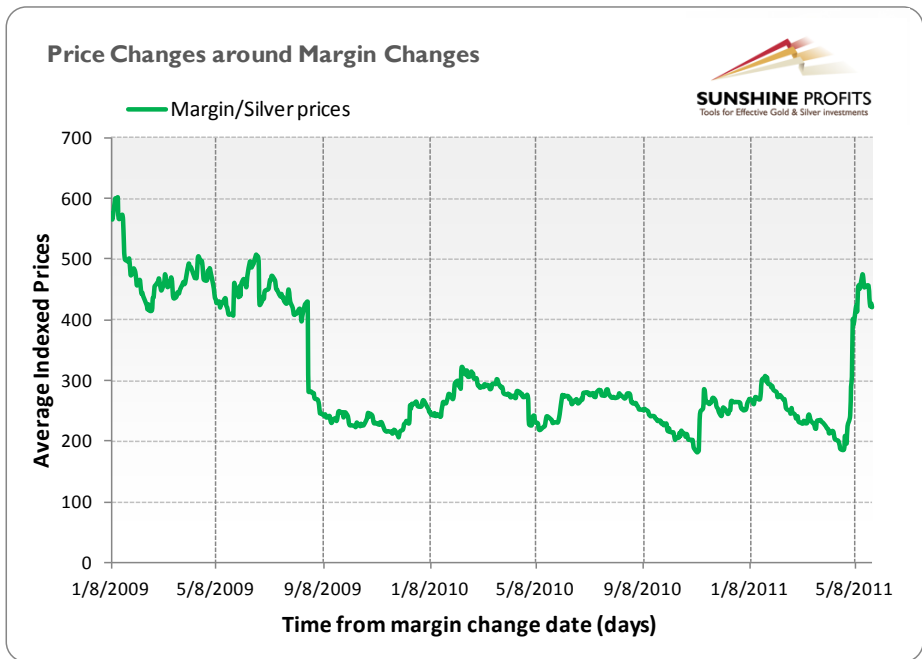


Chart 6: Price Changes around Margin Changes

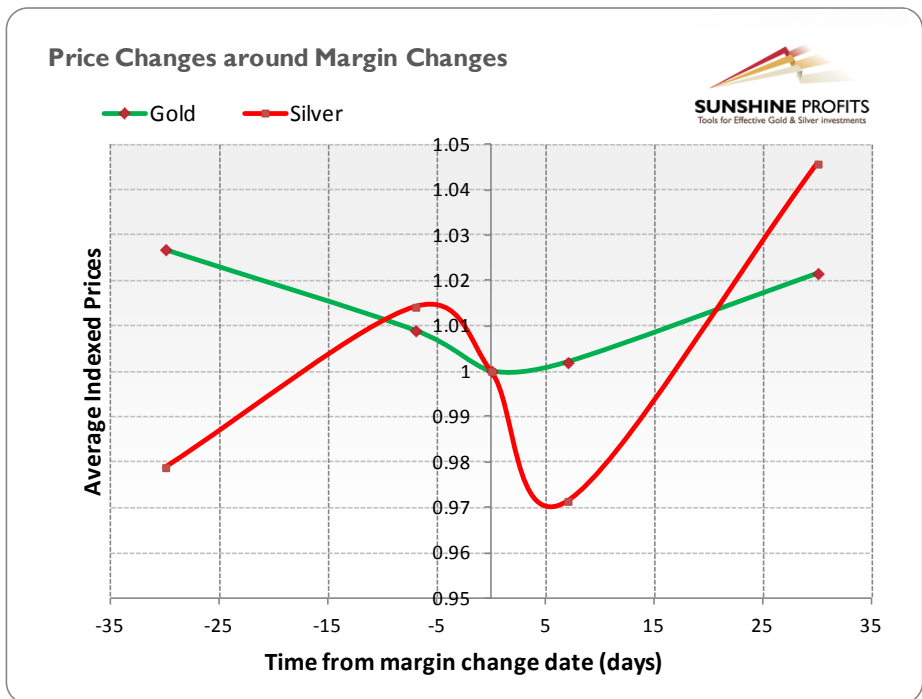


Chart 7: Price Changes around Margin Changes

Impact of Margin Increases on Change in Gold Prices					
Change in prices calculated as : return from margin change to period after (say 1 week) - return from period before (say 1 week) to margin change					
Change date	Margin Change	1 week	1 month	3 months	6 months
1/21/2011	11.13%	-1.81%	0.58%	13.15%	---
11/16/2010	5.86%	-1.74%	0.39%	10.25%	19.64%
2/12/2010	24.89%	4.76%	-3.13%	10.65%	23.70%
12/15/2009	20.07%	-4.02%	0.05%	9.01%	27.18%
Average	15.49%	-0.70%	-0.53%	10.77%	23.01%

Table 3: Impact of Margin Increases on Change in Gold Prices



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