

The latest APRA NCPD stats: what they tell you about your PL and PI claim risks

The latest statistics on Public Liability (PL) and Professional Indemnity (PI) from the National Claims and Policies Data Base were released by APRA a few months ago. Here at Taylor Fry we've taken a good look at the data and our analysis has yielded some interesting information regarding the recent development of PL and PI claims and the profitability trends of these lines.

In this edition of the Taylor Fry newsletter we take a quick look at what we consider to be the most important insights for insurers working with PL and PI claims. As always, there is much more that could be said, but we've kept it brief here as we know most of you are pressed for time at the moment.



APRA
update

Our breakdown of the NCPD stats

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What does this latest release tell you?

The latest statistics from the National Claim and Policies Data Base (NCPD) provide a snapshot of the PL and PI lines of business as they stood at the 31st of December 2009.

For each line of business, the NCPD provides the following information:

- the number of risks underwritten
- the gross written premium
- the gross earned premium
- the numbers of claims reported
- the gross amounts of claims incurred
- the gross claim payments
- and the number of claims finalized

as well as some derivative statistics.

The information relating to numbers of risks and premiums is given according to state and calendar underwriting year. The information on claims is presented in the familiar triangular form, organised according to the axes of the year of origin and the year of development. Two forms of each data triangle were provided, one corresponding to the case in which the years of origin are underwriting years and the other corresponding to the case in which the years of origin are accident years. Once again, the information is given on a state by state basis, with a separate triangle of data given for each state.

How can you use this information?

The triangulation of the claims data is useful in that it enables actuarial analysis, allowing us to forecast the ultimate average claim costs for each of the included underwriting or accident years. This in turn enables us to estimate the profitability of past underwriting, and to discern influential trends in the data. Taken altogether, this information allows us to give you insights into the future profitability of the PL and PI lines of business. Before we get down to summarising our analysis of the NCPD stats for these two lines we'd like to point out a few shortcomings in the data and explain how we've worked around them.

One drawback is the brevity of the timeframe encapsulated by the data: the data only starts from the underwriting calendar year ending on the 31st of December 2003, which means that the most mature accident year is only 7 years old. This is a little limiting, given that PL and PI classes tend to have claims with a 20-year development lifespan. What this means is that a material proportion of the ultimate claims cost for these classes has to be estimated from some other source. We've overcome this shortfall in the data by drawing on the library of claims development patterns we maintain and selecting the patterns which best match those established by the NCPD data. This has allowed us to base our analysis on a more extended timeframe for the PL and PI classes.

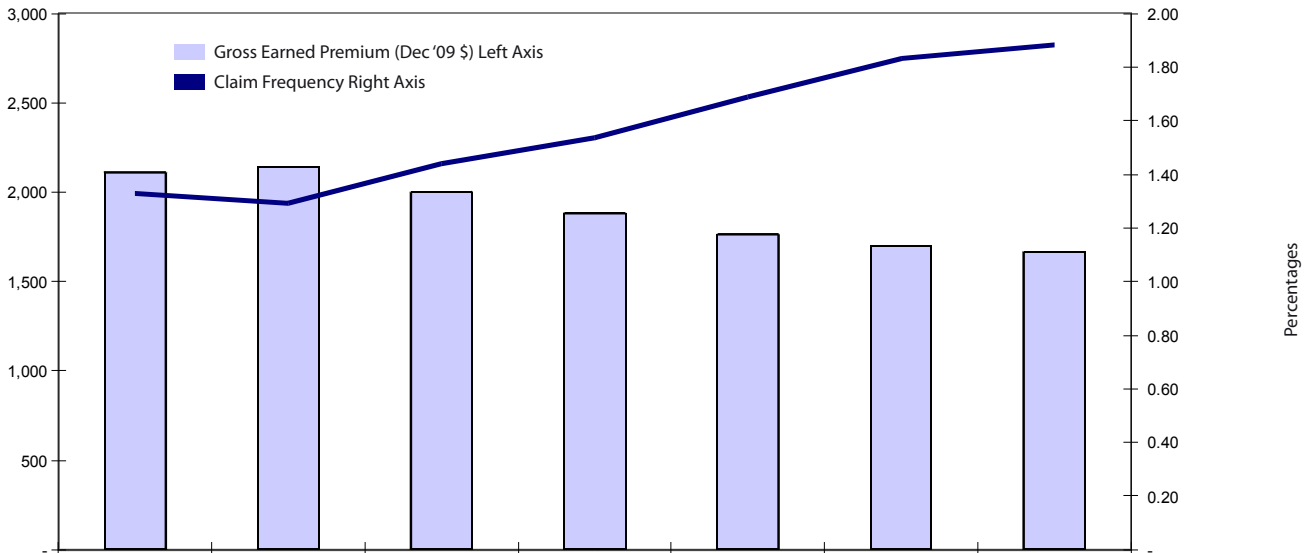
Another issue with the information arises from the state by state breakdown of the data, which leads to two problems when it comes to actuarial analysis. The first problem arises from the claim sample sizes. Even an Australia-wide claims sample is not an especially large one, and the disaggregation of this data state by state then produces even smaller samples which tend to behave erratically. Further, confidentiality issues mean that some cells of information are suppressed within the state by state data. Not only does this lead to incomplete data for the individual states, it means that the data provided for the states does not sum up to the Australia-wide totals. In order to overcome these problems, we've used the Australia-wide claims data in our analysis.

Now we'll give you a look at the most interesting results of our analysis for PL and PI claims. Please contact Greg Taylor (greg.taylor@taylorfry.com.au or (02) 9249 2901) if you'd like to know more. We've broken down our analysis for each line into claim frequency, superimposed inflation, average claim size and loss ratio.

Claim frequency

We've used the NCPD stats to provide you with a history of estimated claim frequency for the 2003-2009 period. This history is set out below in Figure 1. Our method has been to define the claim frequency of a year as the number of claims incurred in that year per unit of gross earned premium. Additionally, to enable comparability between years, we've expressed the premium in 30th June 2009 dollars. We converted all values to June 2009 values by using the Average Weekly Earnings (all Australian employees; total earnings; original series) as an inflation index.

Figure 1 – Public Liability claim frequency



It's interesting to note that premium diminished in real terms over the term of the claims experience. This diminution continued through the GFC. However, over the same period claim frequency increased steadily, with a total increase of 46% over the 5 years from 2004 to 2009.

When we calculate claim frequency as the number of claims per risk underwritten, the increasing trend is not nearly as marked. To us, this suggests that the main reason for the increase in claim frequency is the overall reduction in amount of premium per risk underwritten.

Superimposed inflation

In general, wage inflation can be viewed as a normative index of claim cost escalation, rising broadly in line with average claim costs. When claim costs escalate more rapidly than a chosen normative index, the excess is referred to as superimposed inflation (SI).

SI is notoriously difficult to estimate, so in most situations it's a good idea to allow your estimates a degree of tolerance. It's also common to find that not all claims are subject to the same level of SI. Judicial inflation, for example, can create SI in small to medium-sized claims but affects larger claims less frequently.

Our rough estimates of SI appear in Table 1. You'll notice that estimates are only given for the first four development years covered by the NCPD data. We've done this because there's no evidence of SI in the higher development years, but it's worth noting that the absence of this effect may be due to a lack of data for this region.

Table 1 – Public Liability superimposed inflation

Development year	Rate of superimposed inflation % per annum
1	2½
2	3½
3	3½
4	1½

Average claim size

Our analysis makes use of all available NCPD data. For example, we've allowed for the fact that higher settlement rates have caused claim payments to increase more rapidly than inflation, creating the illusion of additional SI. This effect has been stripped out of the SI estimates in Table 1.

To identify long-term trends, we've examined the data on both claim payments and insurers' estimates of the amounts of claims incurred. We're particularly interested in the history of those incurred amounts, which are set out in Table 2. It's sobering to note that the early estimate for the amount incurred in the latest accident year (circled in red) is more than double that of earlier years.

Table 2 – Amounts of claims incurred (insurers' estimates) in \$'000

Accident Year	Development Year						
	1	2	3	4	5	6	7
2003	125,552	221,981	277,072	374,488	442,219	478,202	509,725
2004	136,708	225,996	319,797	414,961	456,756	477,475	
2005	138,266	240,782	309,580	429,141	502,109		
2006	171,497	288,159	377,307	520,883			
2007	171,118	326,874	456,881				
2008	218,391	379,451					
2009	439,639						

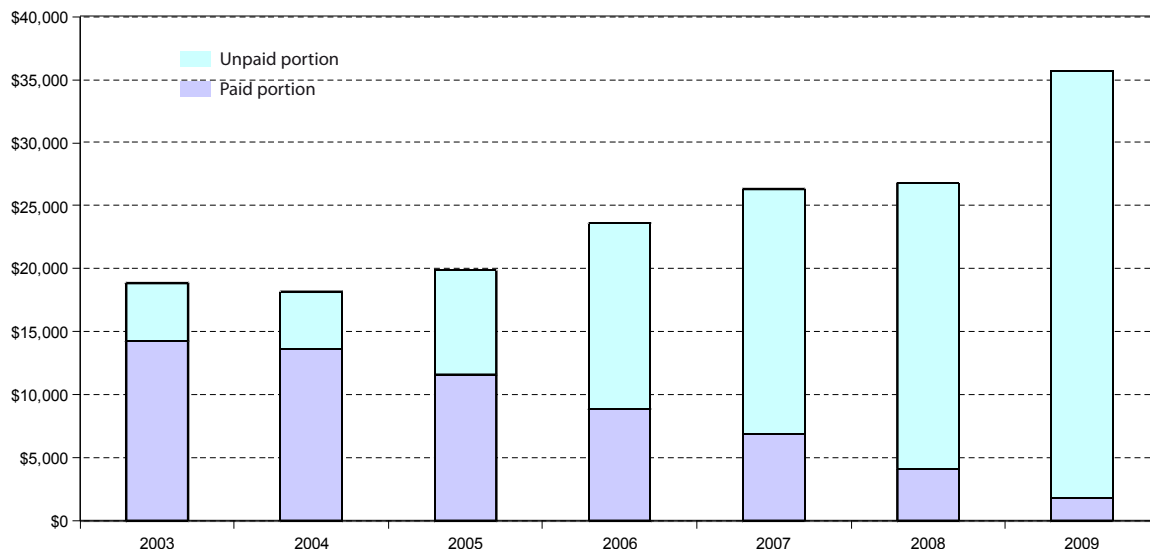
While the disparity is significant, we think the implications for the future remain unclear. Is this a harbinger of continuing heavy losses throughout the 2009 accident year? Or might it simply reflect an unusual block of claims recognised early in development, in which case figures for the rest of 2009 should revert to levels nearer to those of previous years?

For the purpose of this newsletter we've adopted the latter, more optimistic interpretation and subsequent results should be read in the light of this assumption. Nonetheless, the circled cell in Table 2 is a disturbing feature of the data and certainly creates the potential for a final accident year 2009 result considerably worse than we've forecast here.

Moving forward, Figure 2 reports the estimates of average claim size by accident year, expressed in 31st December 2009 dollars for comparability between years. We've further divided each yearly average into two sub-sections – payments already made and estimates of future payments.

You'll immediately notice a trend of increasing average claim sizes, which reflects the genuine SI we've discussed above. The unusually large increase in claim size for accident year 2009, however, should be considered a result of the early spike in claim amounts registered in Table 2, and not necessarily part of a larger trend.

Figure 2 – Public Liability estimated average claim sizes

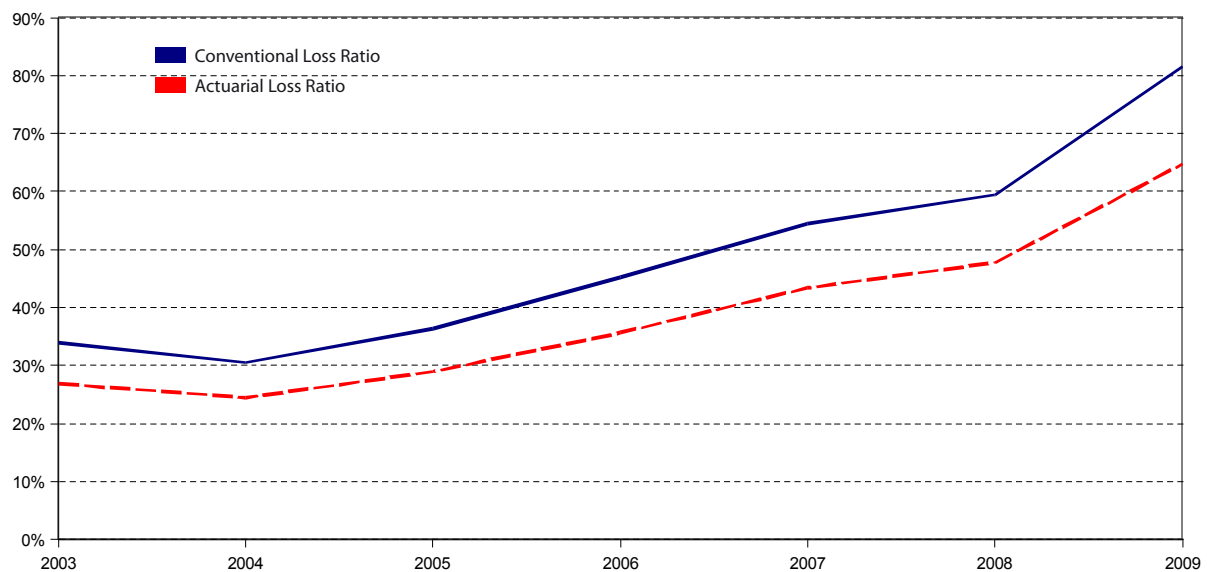


Loss ratio

In Figure 3 we've provided two forms of loss ratio analysis for each accident year: a conventional loss ratio and an actuarial loss ratio. The conventional form is defined as the ratio of ultimate total claim payments, unadjusted, to earned premium and is based on the claims analysis described above.

The actuarial loss ratio combines past claim payments and earned premium with investment earnings to 31st December 2009. Future claim payments have been discounted to that date to allow for future investment earnings. Investment earnings for each past year were calculated at that year's average 2-year bond yield, while our estimates of investment earnings for each future year were allowed for on the basis of the future spot yields embedded in the recent bond market.

Figure 3 – Public Liability estimated gross loss ratios



You'll find that the actuarial loss ratio is the more reliable indicator of profitability. It measures the proportion of premium consumed by claim cost after allowing for investment income, and can be converted to a profit measure by a simple expense adjustment. For example, if administration expenses were estimated to account for 30% of premium, then Profit = 70% - actuarial loss ratio.

What might this mean for the future of Public Liability claims?

As Figure 3 makes clear, the profitability of the PL business has been in decline for a number of years. Of course, your own individual expense structure will ultimately determine whether recent margins were simply slim, or actually negative.

As for the future, that depends very much on two related matters: will the rapid increases in claim frequency and superimposed inflation observed over past years be arrested?

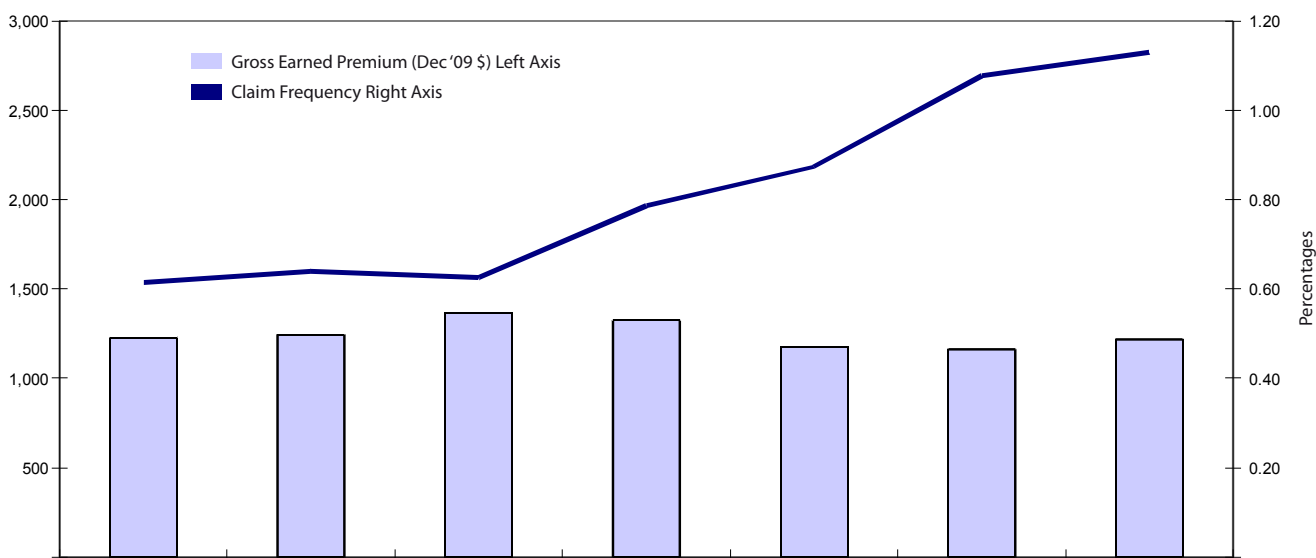
We think it's very much worth noting that both of these trends preceded the GFC and appeared to be little affected by its onset. Accordingly, you have to wonder whether emergence from the GFC is likely to have any effect on claim frequency and superimposed inflation at all.

Claim frequency

A quick glance at the graph below should let you know that claim frequency trends for PI business over the past five years strongly resemble the trends seen for PL. In fact, PI claim frequencies appear to have increased even more rapidly than PL. The estimated ultimate claim frequency for the 2009 accident year is about 80% higher than the corresponding figure for the 2005 accident year. These increases, unlike those seen for PL, have come during a period of relatively stable real gross earned premium.

The history of estimated PI claim frequencies is set out in Figure 4. The interpretation of claim frequency is, as for PL, number of claims per unit of gross earned premium.

Figure 4 – Professional Indemnity claim frequency



Worth remembering is that while PI earned premium does not exhibit the same extent of decline in real terms as PL, it does take its minimum values during the years of the GFC, when claim numbers are at their maximum.

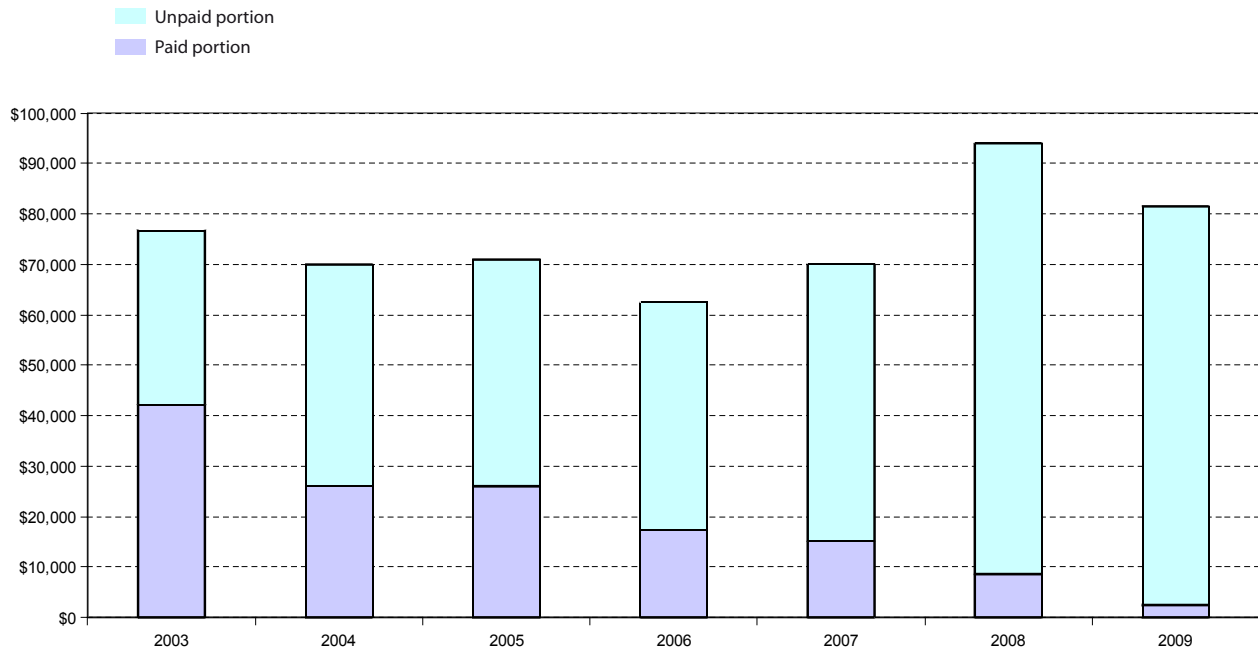
Superimposed inflation

Here, two related trends emerge. Claim payments have increased rapidly over the period of NCPD but the claim settlement rate has also increased dramatically. When this latter fact is taken into account, no clear SI signal emerges. For this reason, we've concluded that the rate of SI is either low or nil.

Average claim size

In Figure 5 we report the estimates of average claim size by accident year, with each yearly average further divided into paid and unpaid portions. Contrary to PL, there is no apparent long-term trend, which is consistent with our finding of low or nil SI.

Figure 5 – Professional Indemnity estimated average claim sizes

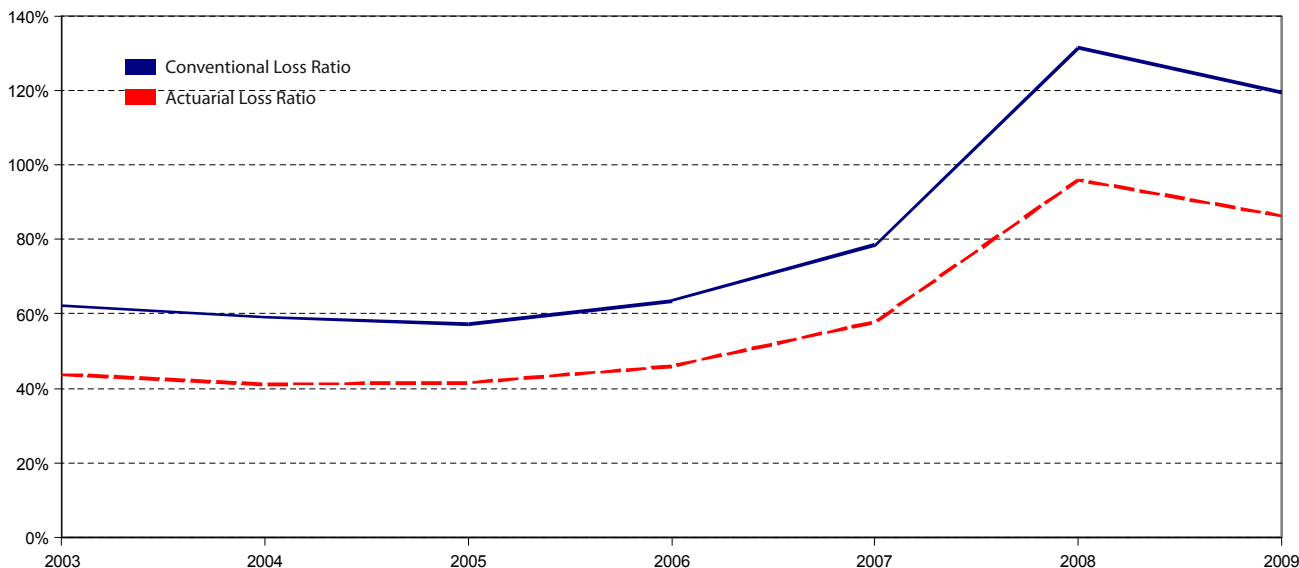


While the ultimate average claim sizes of the past two accident years appear materially higher than those of previous years, we'd caution that these results come with the qualification that there's a large component of estimation uncertainty involved.

Loss ratio

Figure 6 reports loss ratios for PI, based on the same principles we used to formulate loss ratios for PL. Our results predict a rapid decline in profitability over the period from 2005 to 2009 and suggest that, from 2007 onwards, any insurers for which the above profit formula is valid would have been underwriting at a loss.

Figure 6 – Professional Indemnity estimated gross loss ratios



What might this mean for the future of Professional Indemnity claims?

The bad news is that the trend in estimated loss ratio suggests that PI profitability may have taken a sizeable hit from the GFC. Not only did claim frequency increase over those years but, despite the apparent absence of endemic SI, so did claim sizes.

The good news, of course, is that emergence from the GFC might restore PI profitability, or at least reduce the apparent extent of current losses. In any event, insurers appear to have some work to do to restore profitability.

WANT TO KNOW MORE?

We've kept it brief in this newsletter as we know that this time of year can get busy. However, if you've found this information helpful and would like to know more about what our analysis of the NCPD data can tell you about your PL and PI lines of business, please don't hesitate to contact Greg Taylor by the phone number or email address below.

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