

Futures on Dividends: how do they behave, and what they can tell us during an equity crisis

Key points

1 Introduction

In June 2008 a quoted future on aggregated dividends paid by constituents of EURO STOXX 50- started to be traded on the EUREX.

Nowadays one future contract is available for dividends paid over each civil year 2011, 2012 and following, until 2020. Maturity date of each of these contracts is end of December of each fiscal year, and contracts are quoted in index points.

Analysis of these contracts provides interesting information about financial crisis. This is our goal in this publication.

2 Futures on Dividend had clearly overreacted to market drop during 2008-2009 crisis

In November 2008, right during the bigger market turmoil of the last 50 years, comparison between dividends implied in the future quotation and consensus forecast was showing a huge discount, and a Great Depression like drop in expected dividends was quoted on the future.

An explanation was given to us for this huge discount : the future dividends streams used to be bought by hedge funds, from investment bank structured product desks. The Lehman crisis which hit the hedge funds, left much fewer buyers. At the same time, investment banks became even more eager to sell when the price of the future on dividends went down, and made them lose money and bear a more risky than expected position.

However consensus had clearly not yet incorporated the crisis in its dividend forecasts and it was finally revised –significantly- downward over 2009. Conversely, future on dividends had clearly overreacted, and then recovered with a pretty high return (from 88 index points as of 24 October 2008, to 115 at expiry).

Finally the two curves have converged since the amount of dividends paid in 2009 has been published by companies and has become certain (top chart on the right, next page).

3 What's the relation between Futures, Analysts' estimates, and equity market movements?

So far dividends futures have **been quoting generally at discount** compared to the IBES consensus.

However during the last months of trading before contract expiry –as mentioned above- when most of the dividends have been already paid and the remaining part has been announced, **futures and consensus converge to the actual level of dividends paid**. So, the discount is not fairly comparable over time.

- In June 2008 a quoted future on aggregated dividends -paid by constituents of EURO STOXX 50- started to be traded on the EUREX.
- Such futures generally trade at discount versus the analysts' consensus estimates
- During the last months of trading before contract expiry when most of the dividends have been already paid and the remaining part has been announced, futures and consensus converge to the actual level of dividends paid.
- The discount is not fairly comparable over time: maturity means level of uncertainty at some instance, and we need to keep it somehow constant in order keep things comparable over time.
- Dividend futures are strongly correlated to equity market index. Typically they show strong reactions to market drop.
- The last market events have exhibited a much less pronounced sensitivity of these instruments to equity market: This time Equity prices have corrected more than dividend futures
- This evidence is even stronger if we focus on non-financial stocks

Also, dividend futures are strongly correlated to equity market index. Typically they show strong reactions to market drop. Of course, while investigating the behavior of such an asset and its reaction to equity market movements, the choice of relevant maturity is crucial. Maturity means level of uncertainty at some instance, and we need to keep it somehow constant in order keep things comparable over time.

4 A synthetic Index

Thus we have decided to build a synthetic combination of futures on dividend with expiry date 2 and 3 years forwards. The weight of such a basket are dynamic so that average maturity is kept constant to 2 years. We have done the same for IBES estimates. We have chosen 2 years as relevant maturity because it allows the hypothesis of no reported data on both dividends and earnings.

Such a constant maturity index has exhibited 1.4 beta between October 2008 and March 2009, and 1.3 during the market drop of April-May 2010.

“ This time, reaction of dividends futures to market drop has been less pronounced than in 2008-09, or 2010 ”

If any market event provokes a parallel downward shift in the stream of future dividends, we would expect the price of the stocks to correct for the same amount with a sensitivity of 1 (assuming, of course, that the decrease in risk free rate roughly compensates the increase in risk premium, thus leaving the discount rate unchanged).

We recognize instead, that an economic crisis impacts mostly the short term part of future dividends stream, leaving the longer term little changed. In this environment it is reasonable that expected dividends on the short term (next 3-4 fiscal years) could move more than the corresponding market index, in order to compensate for more stable long term dividends. In other words a sensitivity somehow higher than one is not unrealistic.

Quite surprisingly this time, Dividend Futures reaction to market drop has been less pronounced than in 2008-2009 and May 2010 (middle chart on the right): Beta is now “only” 1.

Nevertheless the correction in Dividend Futures level has been pronounced, pulling back the cumulative gap versus 2008 peak at - 50%, for 2013 maturity contract.

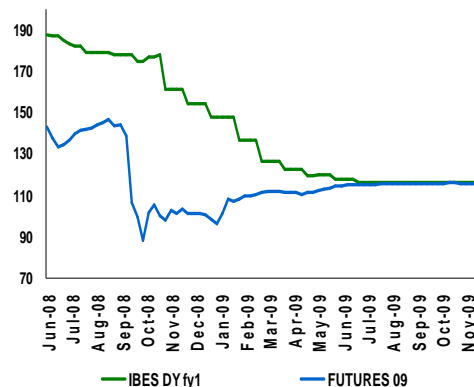
5 Long term growth

In fact, market expectations may discount a medium term recovery to pre-crisis values, but with a lower expected growth in the long term. In few words it is possible that in 2008-2009 market was mainly concerned by the amplitude of recession (with a Great Depression like scenario and thus pushing dividend down with a factor of 1.4 versus equity prices); while nowadays market is discounting some serious deceleration, together with a lower long term growth, once recovery has occurred.

In this case, short term maturity futures contracts may decline less than equity prices, as we face lower dividends in the long term as well. Though we don't ignore this possible explanation we investigate further a standard hypothesis of full recovery and pre-crisis long term growth.

Dividend paid on fiscal year 2009 (on 2008 earnings): Futures and IBES estimates

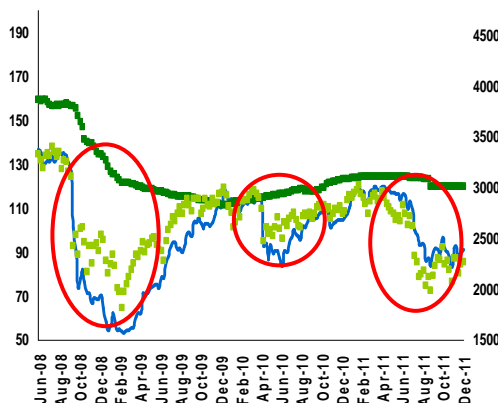
Dividende Points - EURO STOXX 50 FY09



Source: FactSet, Amundi Quant Research

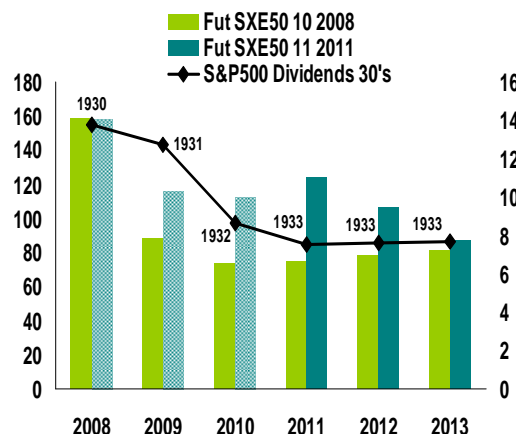
Dividend Futures typically over-react to market movement, except this time

Dividends Futures, IBES Estimates, EURO STOXX 50



Sources: IBES, Amundi Quant Research

SP500 and Euro STOXX Dividends: 1930's, October 2008, and September 2011



Source: Factset, Bloomberg, Shiller website, Amundi Quant Research

6 Possible implied views on dividends

On the top chart on the right we recall the evolution of dividend paid by companies in EURO STOXX 50. While in the following charts we add the current level of 2012 and 2013 future contracts, and the evolution of dividends paid on S&P 500 during the Big Depression.

This time we have added some sector break down in the European index, and this gives us some additional insights.

First, you can notice how current level of 2013 futures implies a cumulative drop of 50% from record high in dividend 2008. That is the same magnitude of the cumulative drop in dividend on S&P 500 from record high 1930 to record low in 1935. Then, implied decline is about 30% from 2011 level.

However 30% is the same drop between 2008-2009 as well. At that time we were assisting at the hardest recession in developed countries since the second world war. Dividend contracted by 45% in financials stocks and 20% in non financial stocks.

Today's situation –though critical and highly uncertain- is different: we are assisting to a clear deceleration in global economy, but we exclude a scenario of GDP drop of 4% in developed countries as in 2009. Thus, a drop of 20% (as in 2009) for dividends in non-financial stocks should be considered as worst case. Conversely, for financial institutions and banks in particular, concerns on capital adequacy could lead to a more brutal dividend cut. This means that with a reasonable confidence dividends are likely to drop more in financials than in non-financial stocks.

If we apply a 17.5% cut to all non financial constituents and 60% to all financial constituents we get the same level that is priced on the 2013 future today: about 87.

In this scenario broad sensitivity of dividends to equity would still be 1, but we can split it into a familiar 1.43 for financials (as equity return on these stocks have been -40% over the period from beginning of April to mid-December 2011), and to “only” 0.8 for non-financials (basket return of -21%)

7 Accounting for change in index composition

However there is some important change in index composition to account for.

As we know, INTESA, UNICREDIT, and CASA have exit the index on September. These index change can be followed by other similar moves, and will affect the dividends paid in 2012 and in 2013.

Also, these changes are likely to be fully incorporated in market price only recently, as in April market value of such banks were even higher than twice as today.

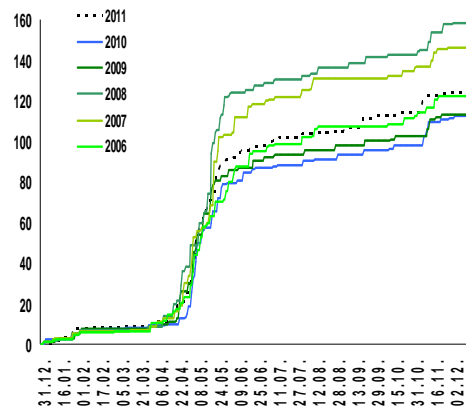
For these reason we run a supplementary scenario.

In order to be comparable we keep the hypothesis of -60% on the financial sector, letting the weight of financial stocks drop to one half in 2012, as a consequence of the index changes discussed above.

In this second scenarios, the actual level of 2012 and 2013 contracts implies a contractions in non-financial dividends of -22% (contractions that already violate our lower-bound of -20% for non-financials), with a consequent sensitivity to equity price decline of 1, still below what we would consider as normal level (significantly higher than 1).

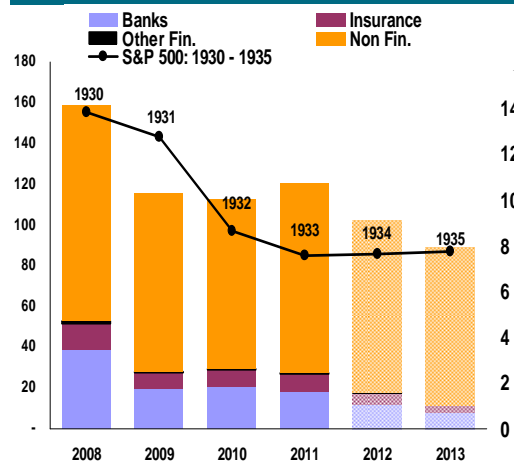
Repeating the simulation with an even more severe drop of financial weights in the index, results don't change a lot (sensitivity of 1.03)

Dividend points: evolution during the year (2006 to 2011)



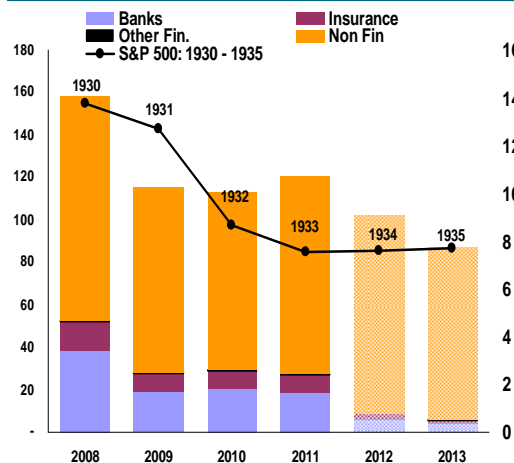
Sources: IBES, Amundi Quant Research

Scenario 1: -60% in financials dividends and -17.5% in non-financials



Sources: IBES, Amundi Quant Research

Scenario 2: -60% in financials dividends and -22% in non-financials (50% financials exit)



Sources: IBES, Amundi Quant Research

8

Conclusions

We have shown that, except if we expect very long term growth to deteriorate, we may reasonably expect short maturity futures to exhibit a sensitivity to equity price higher than one. Since such an economic crisis impacts mostly the short term part of future dividends stream, leaving the longer term little changed.

This intuition has been confirmed during 2008-2009, and 2010 equity markets drops, but not in the period from April 2011 to nowadays, where such a sensitivity has been lower than one.

We recognize that we face important differentiation between sectors, and that big index composition change may add some estimation error to our analysis.

However, considering the already severe information we extract from futures dividends for non financial stocks, we can consider the hypothesis that these latter equity price may be exaggerating in their downward correction, as this time drop in equity price seems to be higher than drop in expected dividends.

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