CBOE 26th Annual Risk Management Conference
Dividend Swaps, Options & Futures

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BEST GLOBAL EQUITY DERIVATIVES HOUSE 2009

MOST INNOVATIVE IN EQUITY DERIVATIVES

EQUITY DERIVATIVES HOUSE OF THE YEAR

SOCIETE GENERALE
Corporate & Investment Banking

SG Americas Securities, LLC.

Why trade Single Stocks Dividend Futures

You are all exposed to dividends

- ALL equity investors are holding single stock future dividends
- ALL stock pickers are also future dividend pickers
- ALL derivatives traders are implicitly exposed to future dividends

History in the making

The evolution of the dividend market

Early 2000s

Banks create Divswaps to offset dividend risks

Players: proprietary desks and a few hedge funds

Increase of liquidity thanks to more standardized confirmation

June 2008

Index Listed Futures

➔ More players such as pension funds and total return funds

January 2010

Introduction of Single Stocks Dividend Futures

The Future …

Who is going to join the market?

➔ Asset managers, creation of long only dividend funds, institutionals, retails

Dividends are emerging as a new asset class…

(Less correlation to other assets)

Main features of dividend swaps

Advantages

- Simplicity of the product
- Focus only on dividend (no rate, no repo, no financing)
- Dividend swaps started to be more liquid in 2003

Requirements

- ISDA contract
- Credit line with the counterparty

How dividend swaps work
Technical overview

Fixed Amount
« Swap Level » or « Future Price »

Dividend Buyer → **Dividend Seller**

Floating Amount
« Qualifying Dividends »

Mechanism

- Floating amount Single Stock: $\sum_t d_t$
- Floating amount Index: $\sum_t \sum_i \frac{n_{i_t} \times d_{i_t}}{D_t}$
- d_t : Qualifying Dividend Amount, D_t : Index divisor
- Index:
  - Payout at maturity = Nb of baskets x (Floating amount – Fixed amount)
- Single Stocks:
  - Payout at maturity = Nb of shares x (Floating amount – Fixed amount)
  - Taxation: Dividend Gross considered (before Withholding Tax or Tax Credit)
- Underlying: future cash settlement of realised dividends going ex- in that calendar year (from Dec_{t-1} to Dec_t expiry). Start date is excluded, end date is included.

Pricing Dividend Swaps from the market's implied level: Call/Put parity

The implied pricing of SX5E Index dividend swaps can be calculated by using the Index Options prices.
From parity call/put for dividend paying stocks we know that:

Call – Put = Stock - PV (Div) - PV (Strike)

Where: Put = put price
Call = call price
Stock = stock price
PV (Div) = present value of dividend payment
PV (Strike) = present value of strike price

Looking at the PV (Div) gives:

PV (Div) = Stock + Put – Call – PV (Strike)

Dividends are paid annually in December, so that:

The value of the dividend swap on December = PV (Div) (1+r)T

Where: T is the proportion of the year till December and r the risk free rate to December.

Qualifiying dividends

Single stocks

- 100% of the declared dividends, payed either in cash or shares, unless the related primary derivative exchange makes an adjustment
- Stock dividends are usually included at the equivalent cash amount
- Dividends declared special or extraordinary by the issuer are usually excluded
- Return of capital: they follow the related exchange rules
- Share buy-backs usually do not count

Qualifying dividends

Indices

- Dividends are considered as qualifying or not by the Index sponsor
- In general, if the index sponsor does not adjust, 100% of the cash declared dividend and 100% of the equivalent cash stock dividend is included
- Normally, if the payment of stock dividends is dilutive for existing shareholders then they are not considered
- Return of capital treatment can vary across different indices
- Normally, if the index sponsor adjusts part of the dividend, the unadjusted part is then considered as qualifying

Trading dividends with listed products

Eurex dividend futures

- Underlying: future cash settlement of realized dividends going ex- in that calendar year (from Dec_{t-1} to Dec_t expiry)

	FEXD	FD3D	FDVD	FSMD
Underlying Index	DJ EUROSTOXX50 Dividends (SX5ED)	DJ EUROSTOXX Select 30 Dividends (SD3ED)	DivDax Index Dividends (DXDIVPT)	Swiss Market Index Dividends (SMIDP)
Product ISIN	DE000A0V8MN0	DE000A0ZW4F9	DE000A0ZW4E2	DE000A0ZW4C6
Point Value	100 € per point	100 € per point	1000 € per point	100 CHF per point
Longest Maturity	Up to 120 months (10 nearest Decembers)	Up to 60 Months (5 nearest Decembers)	Up to 60 Months (5 nearest Decembers)	Up to 60 Months (5 nearest Decembers)
Trading Hours (CET Time)	8h30-22h00	8h30-18h00	8h30-18h30	08h30-17h27

Source: Eurex

Disclaimer: These futures contracts are not CFTC approved

Trading dividends with listed products

NYSE Euronext dividend futures

- May 2009: Introduction of FTSE 100 Index Dividend Futures
- Dec 2009: Introduction of CAC 40 Index Dividend Futures
- Maturities Listed up to 2016 (resp. 2014)
- Contract size 10 GBP (resp. 10 EUR) per point
- And January 2010: Introduction of single stock Dividend Futures
  - Market Making obligations focusing on first two maturities
  - Up to five years maturities

Disclaimer: These futures contracts are not CFTC approved

Trading dividends with listed products
Dividend future vs. OTC

- Central Clearing Counterparty: no credit risk, mitigated counterparty risk
- No documentation required
- Transparent quotes and historical series availability
- Standardized treatment of Corporate Actions Adjustments
- Underlying index for each index contract to monitor accrued dividend

Disclaimer: These futures contracts are not CFTC approved

SG Dividend swaps business

Dividend Trading Desk provides Prices to Clients and concentrates Dividend Risk of Société Générale (Exotics, Volatility and One-Delta)

Index

- One of the major players in the Broker Market on EuroSTOXX 50
- Very active on Listed Market on EuroSTOXX 50, FTSE, CAC and SMI
- Run sent daily

Single Stocks

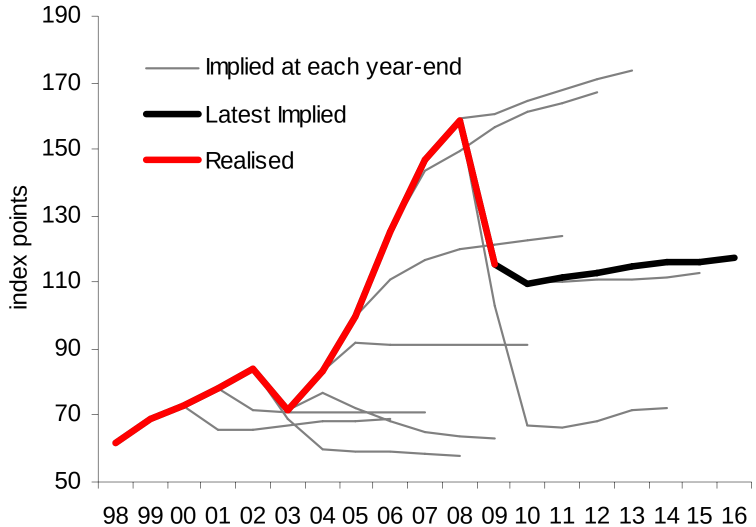
- Major Liquidity Provider
- Over 40% of Market Share in the Broker Market
- Weekly Run & Research for Clients (available on Bloomberg Page SGWP7)
- First Market Maker on the Single Stocks Dividend Futures

Disclaimer: These futures contracts are not CFTC approved

Fundamentals:

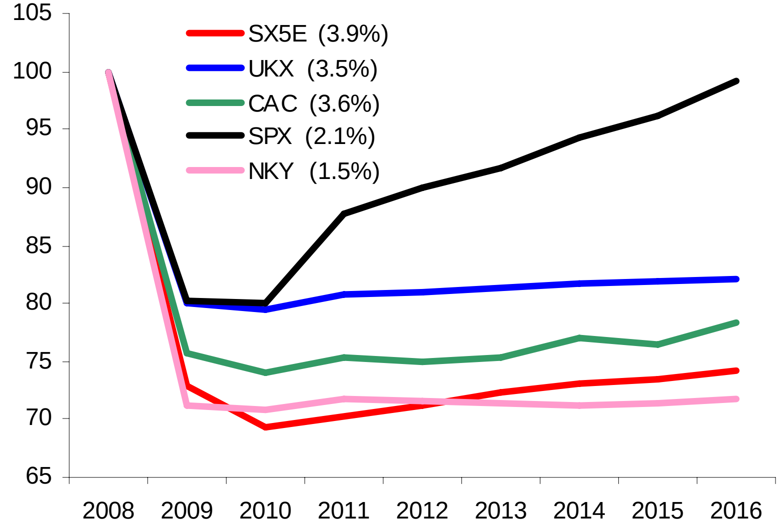
Back from the abyss

EuroSTOXX 50's Dividend Futures



Note: OTC mark-to-market shown for history prior to Eurex listing.
Source: Eurex, SG One-Delta Trading

World dividend discounts - 2008 = basis 100
(in brackets: 2010 DY)



Source: Eurex, SG One-Delta Trading

Disclaimer: These futures contracts are not CFTC approved

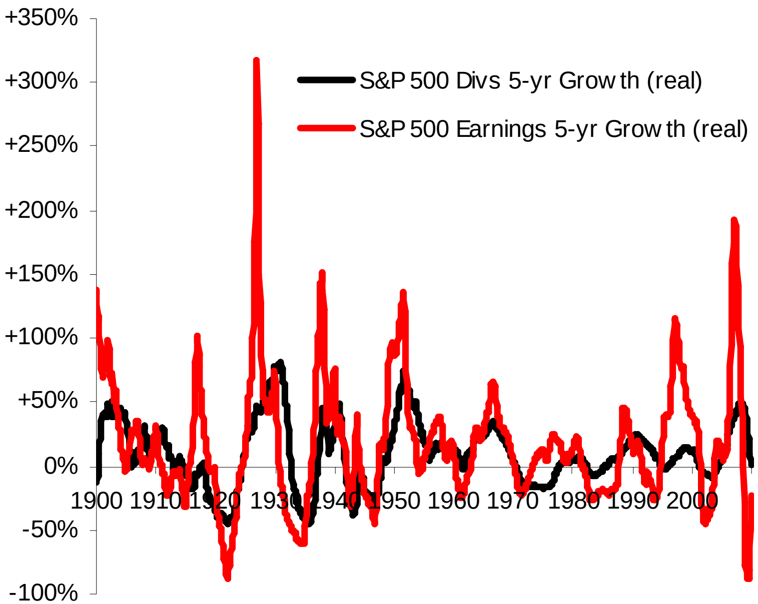
Dividend futures on Bloomberg:

{ **DEDA** INDEX **CT** GO } for EuroSTOXX 50
{ **UKDA** INDEX **CT** GO } for FTSE 100
{ **XFDA** INDEX **CT** GO } for CAC 40
{ **SMDA** INDEX **CT** GO } for SMI

Previous profit cycles:

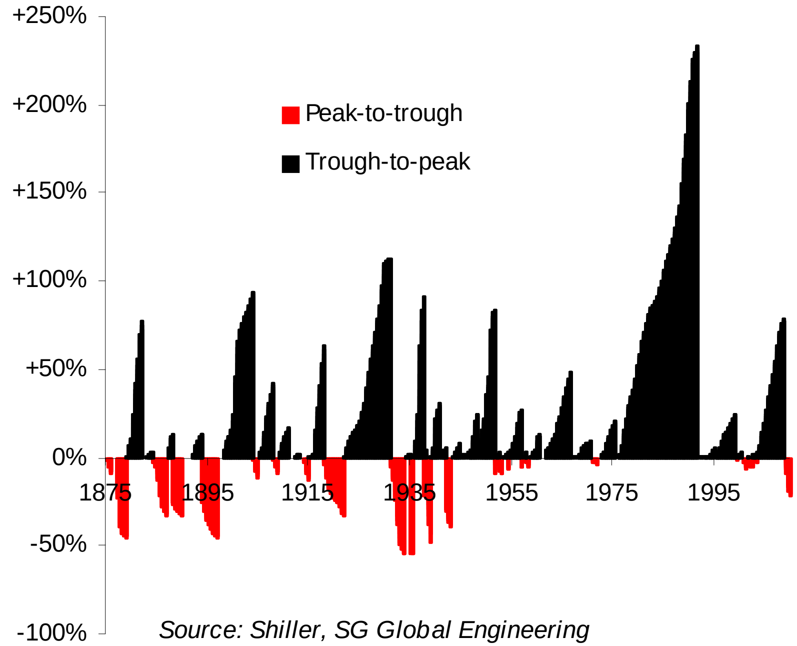
We have been there before

Dividends are less volatile than Earnings



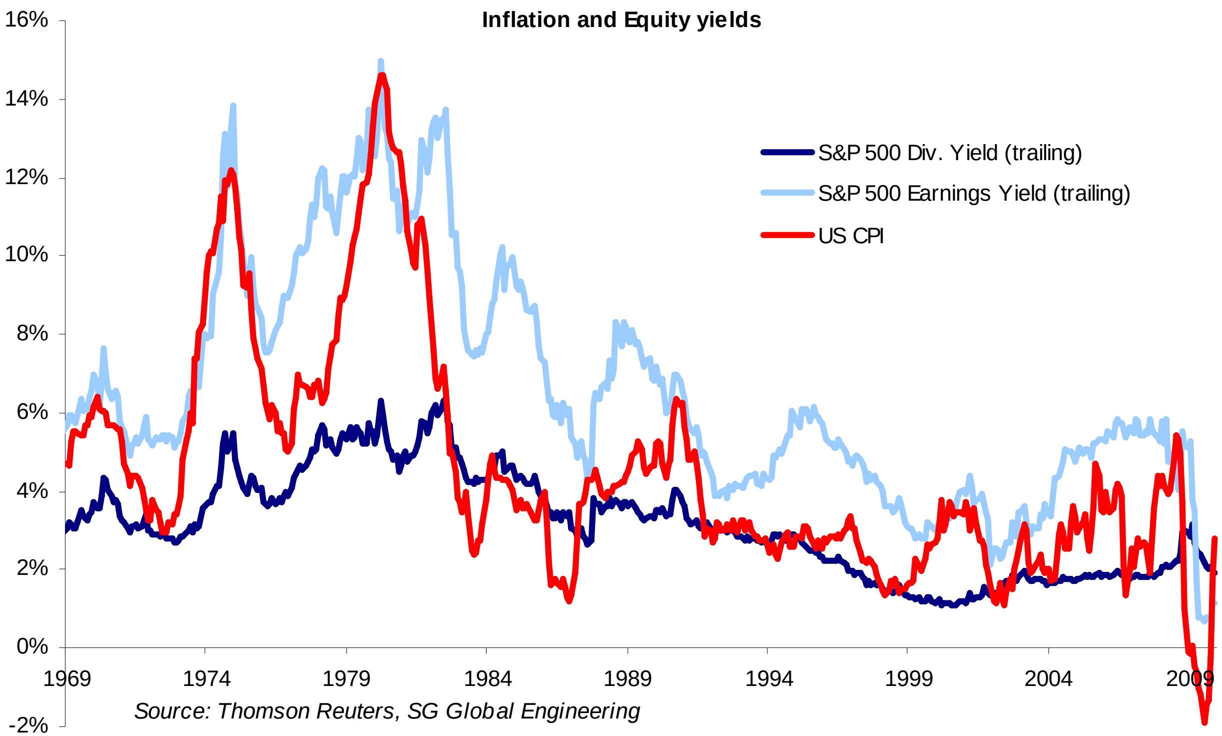
Source : Shiller, SG Global Engineering calculations

S&P 500 Nominal Dividend cycles

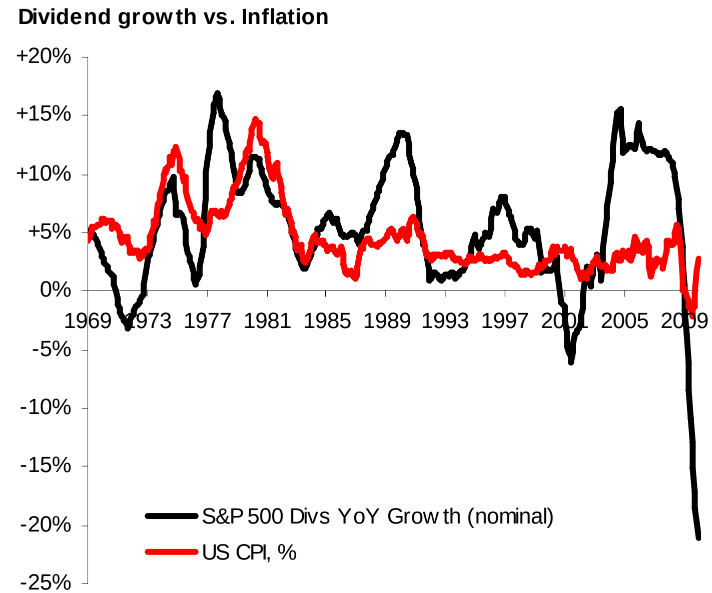


Source: Shiller, SG Global Engineering

And we know the relationship with inflation,
which makes dividends a hedge



Source: Thomson Reuters, SG Global Engineering



Source : Shiller, SG Global Engineering

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