

Agenda

Introduction

FORECASTING

- Predictions
- Issues

PREDICTION MARKET

- Concept
- Futures
- Examples
- Inside companies

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- Illustration



UNIL >> HEC >> Talks >> eBusiness >> 25.01.2007

Prediction markets as forecasting tools

Université de Lausanne, Ecole des HEC, Cédric Gaspoz

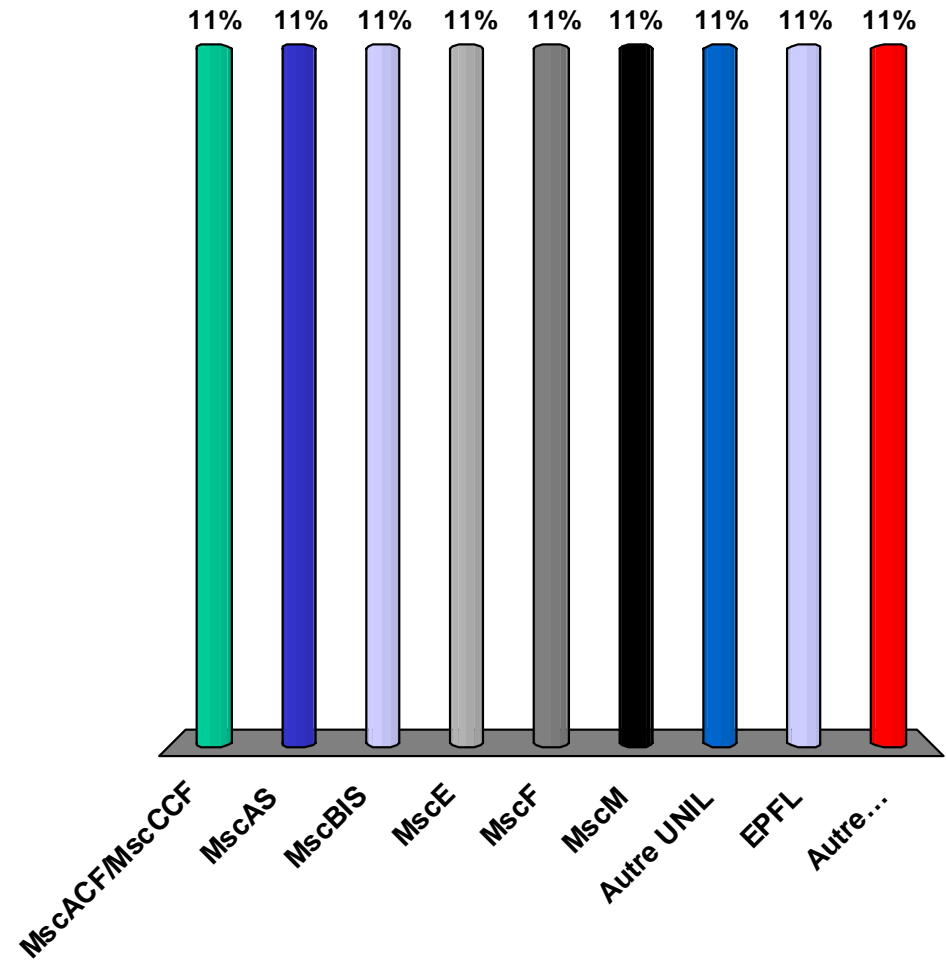
Est-ce que vous avez compris le fonctionnement des zapettes?

- 😊 1. Oui
2. Non



Quelle est votre orientation principale?

1. MscACF/MscCCF
2. MscAS
3. MscBIS
4. MscE
5. MscF
6. MscM
7. Autre UNIL
8. EPFL
9. Autre...



Predictions ...

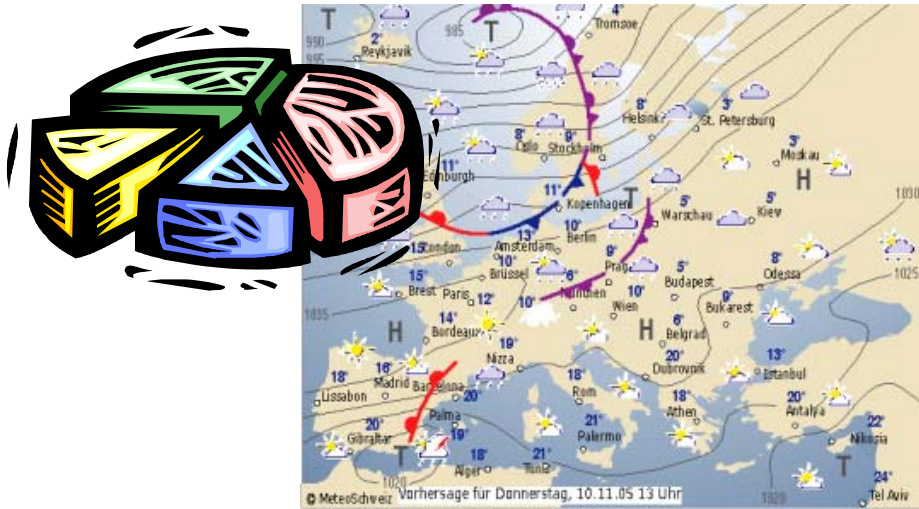
- *“This 'telephone' has too many shortcomings to be seriously considered as a means of communication. The device is inherently of no value to US.”*
[West Union internal memo, 1876]
- *“I think there is a world market for maybe five computers.”*
[Thomas Watson, chairman of IBM, 1943]
- *“640K ought to be enough for anybody.”*
[Bill Gates, 1981]
- *“There is no reason anyone would want a computer in their home.”*
[Ken Olsen, President and founder of Digital Equipment Corp., 1977]
- More recently, nobody anticipates the SMS phenomena ...

About predictions ...

- *"Forecasting is the art of saying what will happen, and then explaining why it didn't! "*
[Anonymous]
- *"Prediction is very difficult, especially if it's about the future."*
[Nils Bohr, Nobel laureate in Physics]
- *"An economist is an expert who will know tomorrow why the things he predicted yesterday didn't happen today. "*
[Evan Esar]
- *"Wall Street indices predicted nine out of the last five recessions ! "*
[Paul A. Samuelson in Newsweek, Science and Stocks, 19 Sep. 1966]
- *"I never think of the future, it comes soon enough. "*
[Albert Einstein]

Forecasting problems

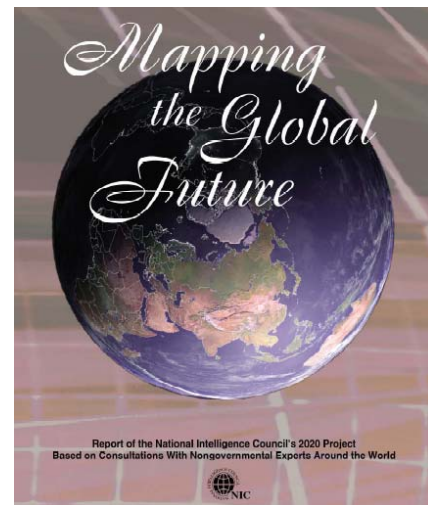
Statistical methods



Game theory

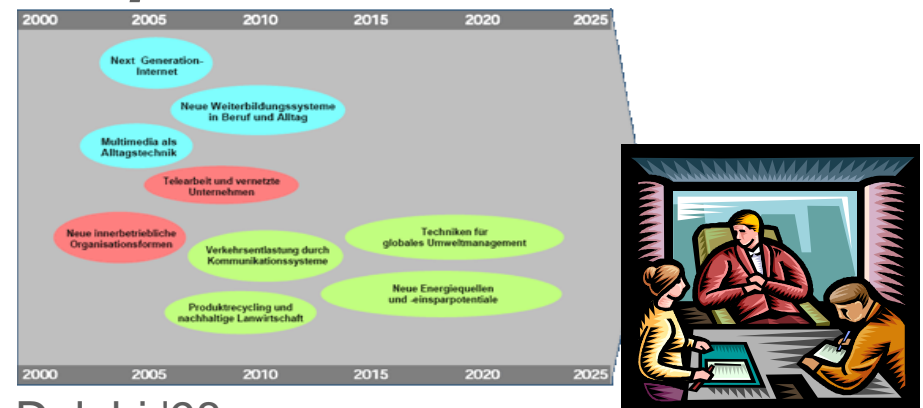


Scenarios



www.cia.gov/nic

Delphi method



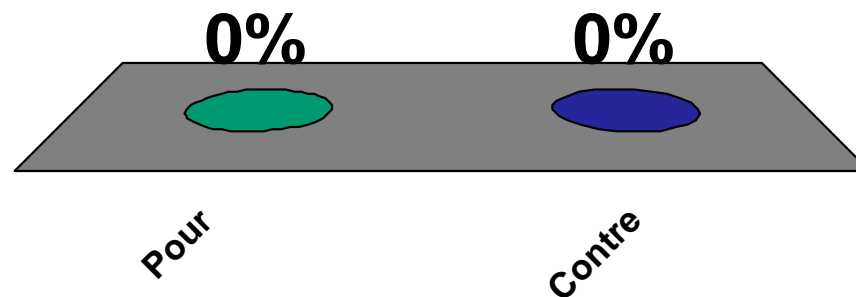
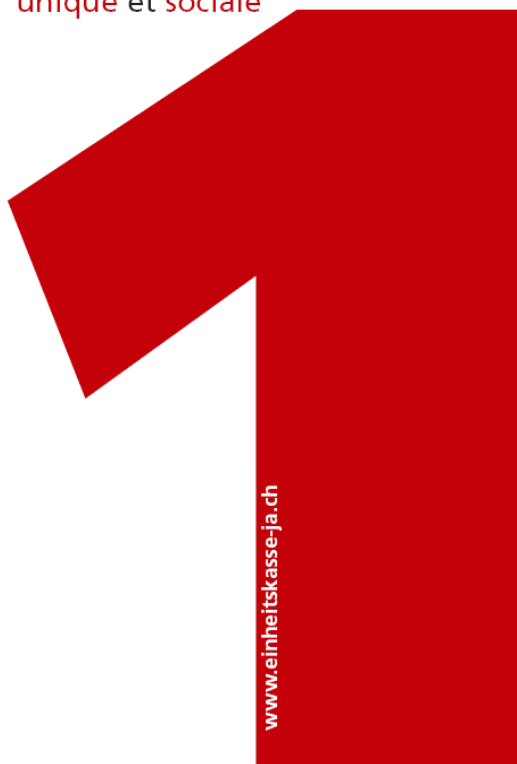
Delphi '98:
New Foresight one Science and Technology

Etes-vous pour ou contre l'instauration d'une caisse maladie unique pour l'assurance de base?

1. Pour
2. Contre

unique
sociale
ambition

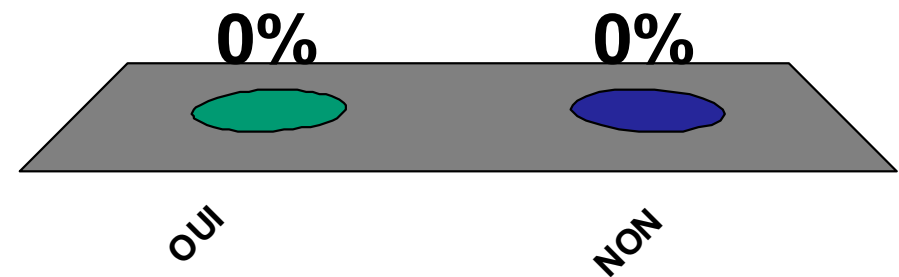
initiative pour
une **caisse maladie**
unique et sociale



Pensez-vous que l'initiative sur la caisse unique sera acceptée en votation populaire le 11.03.2007

1. OUI
2. NON

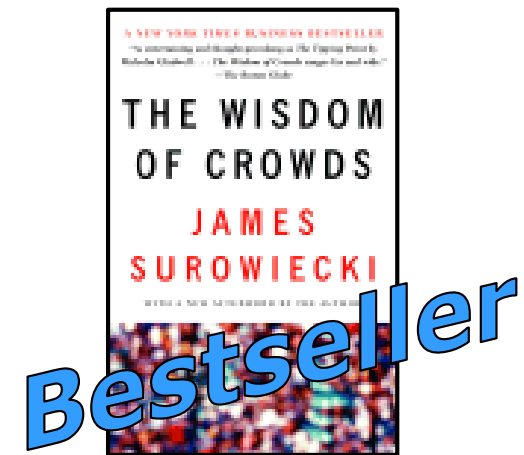
**unique sociale
ambition**
initiative pour
une **caisse maladie**
unique et sociale



What is a prediction market?

- Prediction markets are **speculative markets inspired by the future exchanges** created for the purpose of **making predictions**.
- Assets are created whose **final cash value** is tied to a **particular event or parameter**.
- The **current market prices** (fixed by the bidding and asking prices) can then be interpreted as **predictions of the probability** of the event or the expected value of the parameter.

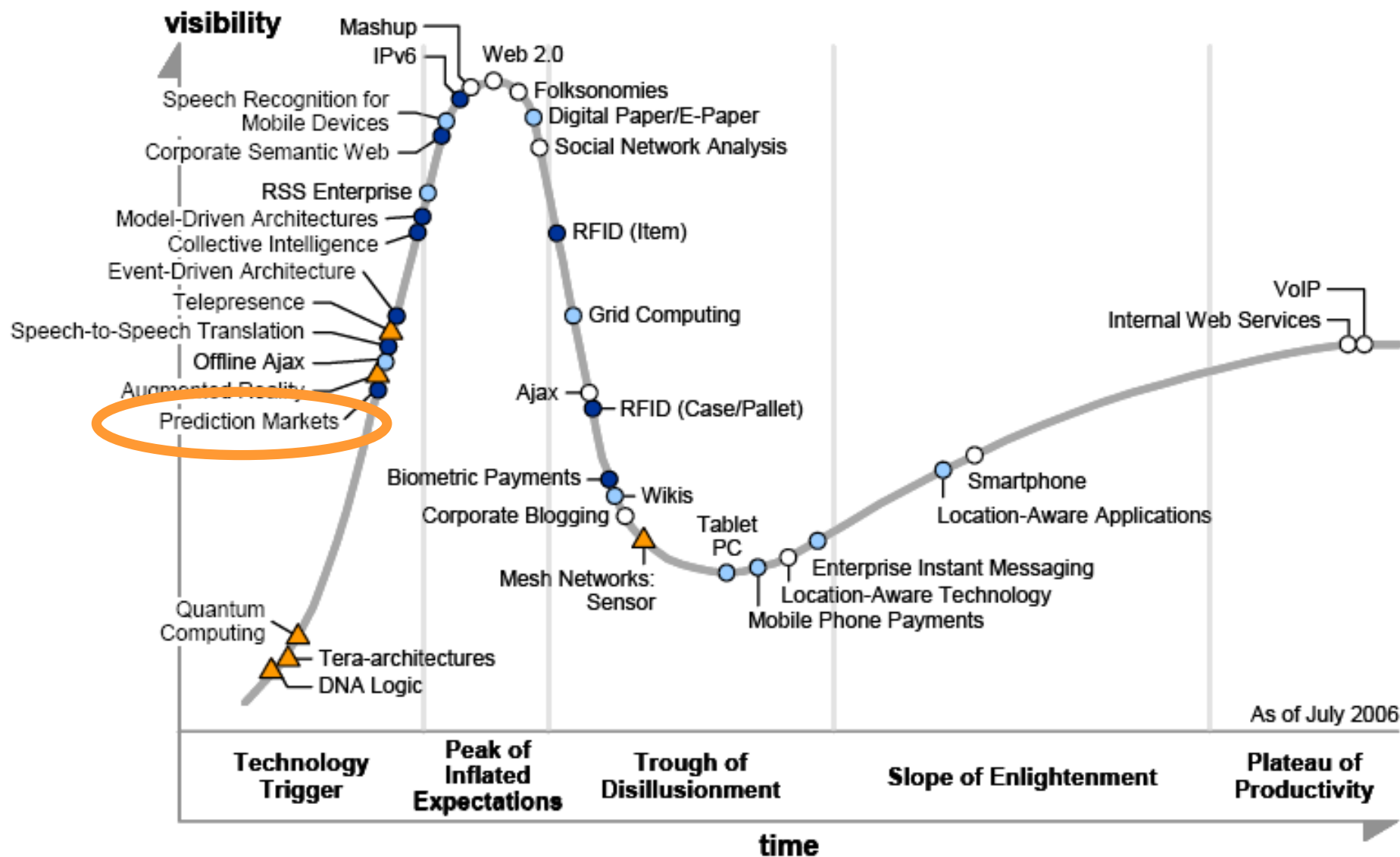
Vista will be launched before the 22.12.06, whatever is the version, or the distribution method, or the country, or the format, or the available quantities, etc....



Some principles

- The prediction market, like any speculative market, **aggregates** the individual **expertise** and **opinions** of **well-informed** and **well-motivated** traders into a single **easily understood number**: a stock's trading price.
- This number can be taken as indicating the **collectively agreed-upon likelihood** of a particular outcome in the real-world. Even non-participants may thus benefit from such market signals.
- Since it involves “putting money where your mouth is” (even if it is play money), this game **rewards the better informed traders** while **penalizing the worst**. Thus, the influence of the best grows while the influence of the worst tends to vanish. The result is a sort of permanent **poll of experts** who predict what will happen next in the world.

Hype Cycle for Emerging Technologies, 2006



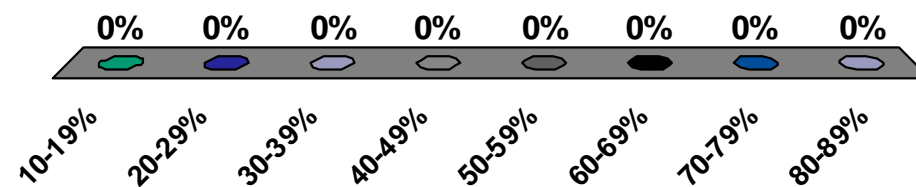
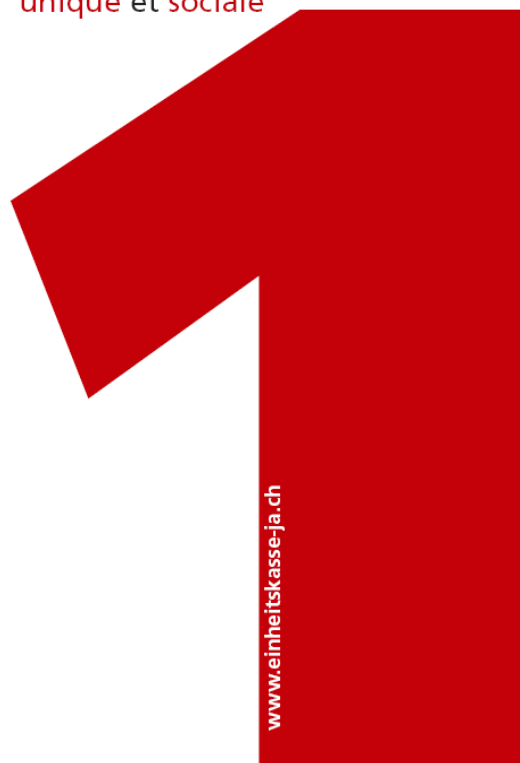
Source: Gartner (July 2006)

Quel sera le pourcentage de votants acceptant l'initiative pour la caisse unique le 11.03.2007?

1. 10-19%
2. 20-29%
3. 30-39%
4. 40-49%
5. 50-59%
6. 60-69%
7. 70-79%
8. 80-89%

**unique
sociale**

initiative pour
une **caisse maladie**
unique et sociale



Futures

- A futures contract is a **standardized** contract, traded on a **futures exchange**, to buy or sell a certain **underlying instrument** at a certain **date** in the future, at a specified **price**.
- The daily transaction volume exceed \$ 4,7 billion (mostly on exchange rates)

CME Frozen Pork Bellies Futures Contract (PBK7)

40,000 pounds of frozen pork bellies, cut and trimmed.

Frozen Pork Belly Futures: 1 point = \$.0001 per pound = \$4.00

First Trade Date: 26.05.2006

Last Trade Date: 25.05.2007

First Delivery Date: 08.05.2007

Last Delivery Date: 31.05.2007

(cme.com - GPB)



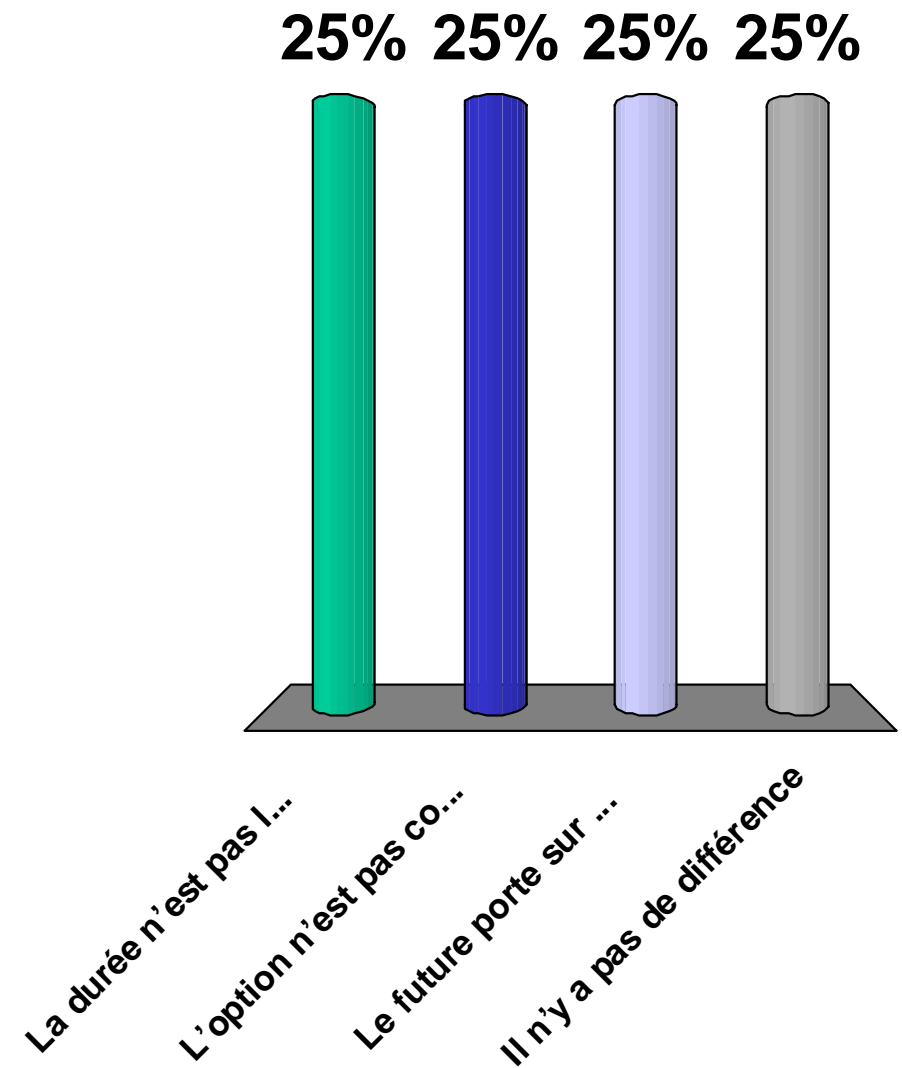
CME Frozen Pork Belly Futures

PB(15) ~ Weekly Last:96.050 -0.150 High:97.900 Low:94.350 1/23/2007 1:25:00 PM



Quelle est la différence entre un contrat à terme (future) et une option?

1. La durée n'est pas la même
- ✓ 2. L'option n'est pas contraignante
3. Le future porte sur des matières premières alors que les options portent sur des produits financiers
4. Il n'y a pas de différence



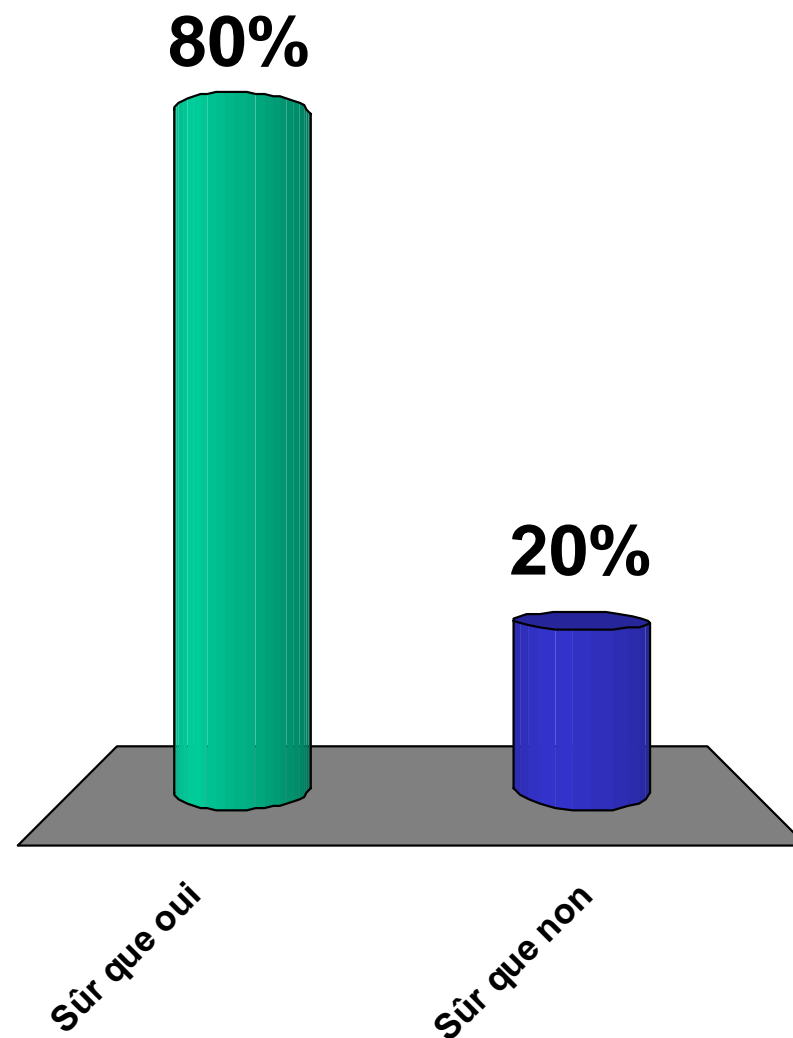
Advertisement ;-)



NewsFutures.com on CBS - Jan 8 2006

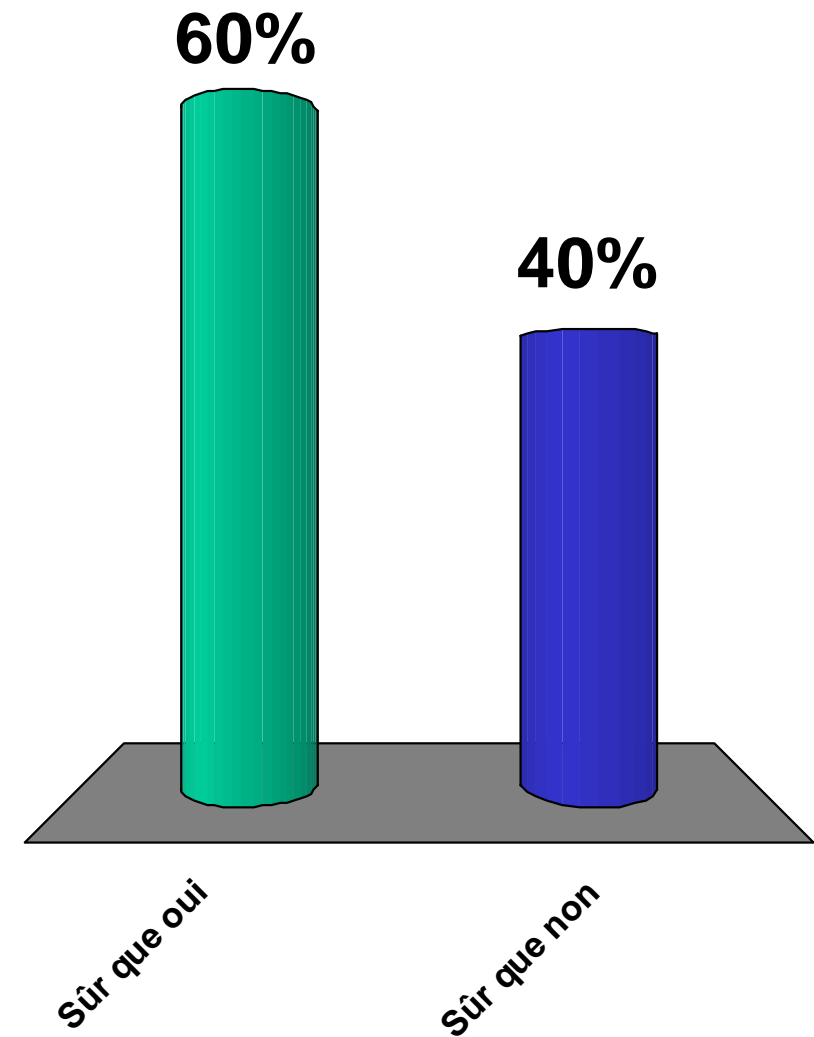
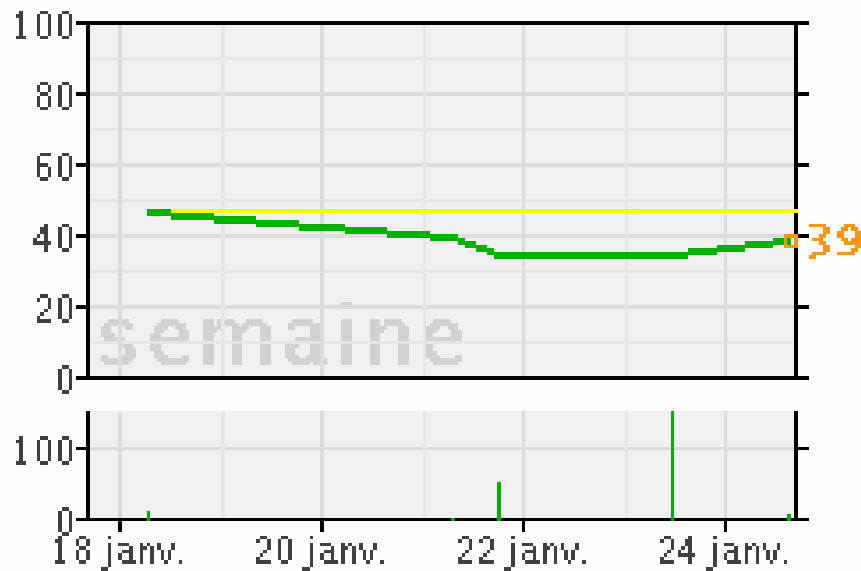
Ségolène Royal sera le prochain président de la république

1. Sûr que oui
2. Sûr que non



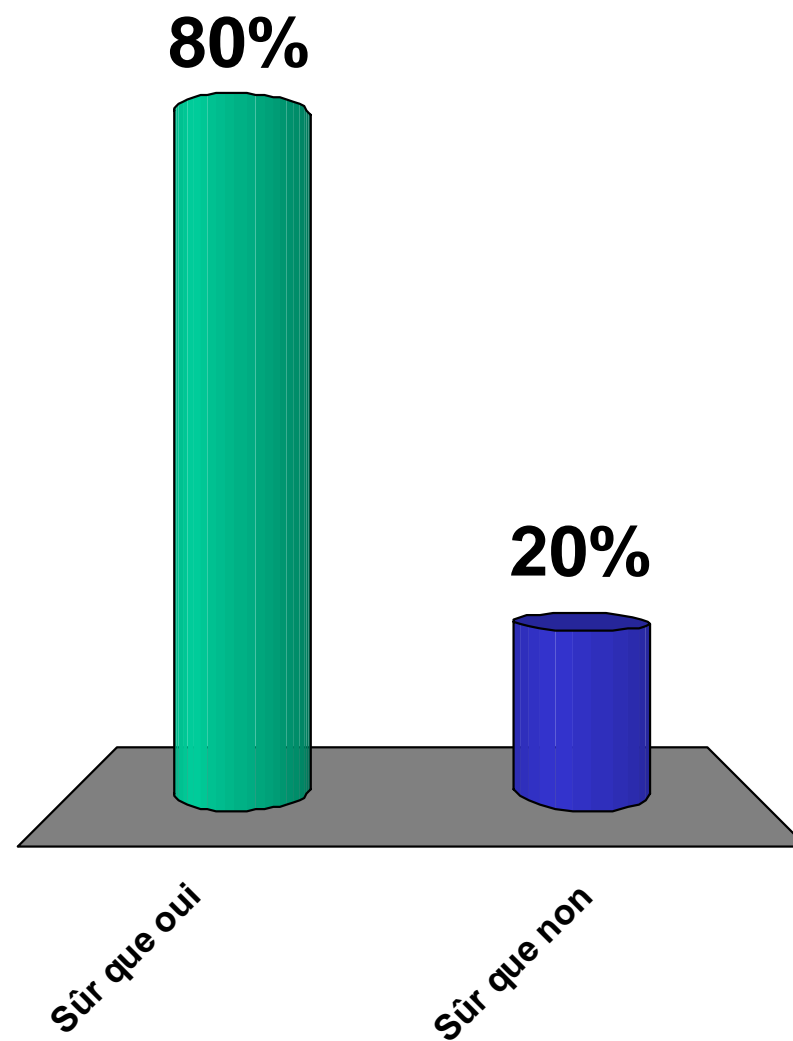
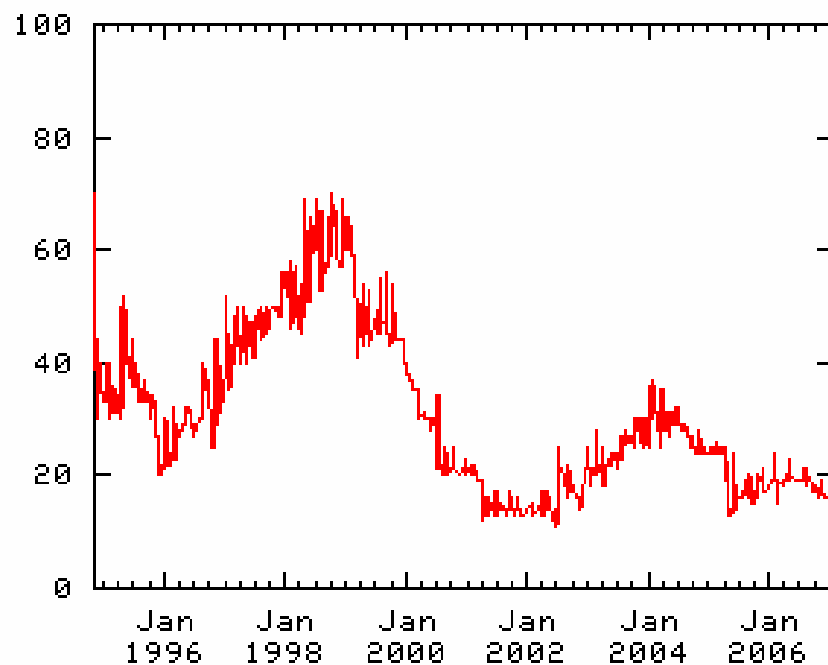
Taxi 4 fera plus de 2 millions d'entrées lors de la première semaine de projection

1. Sûr que oui
2. Sûr que non



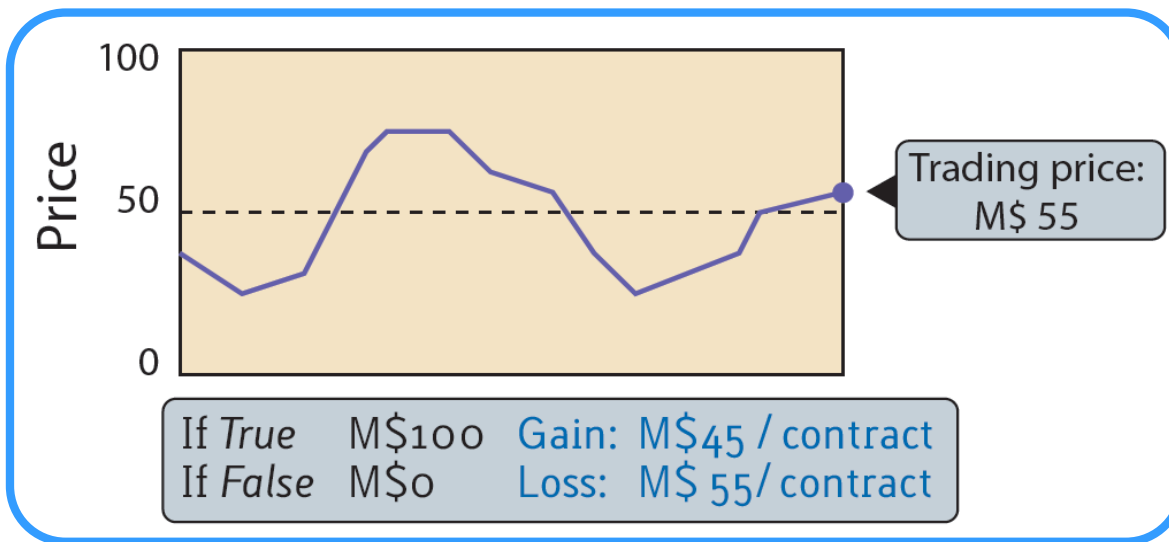
Cancer cured by 2010

1. Sûr que oui
2. Sûr que non



How does it work?

« *Islamic terrorists will hit the U.S. homeland again while Bush is president* »



Sell (Qty)	Buy (Qty)	Last	Change
\$56 (10)	\$53 (45)	\$56	+2% ▲

If True M\$100 Gain: M\$45 / contract
 If False M\$0 Loss: M\$ 55/ contract

Never! 55% is too high

SELL

Sell		Buy	
Qty	Price	Price	Qty
30	56	56	20
80	57	53	45
10	59	50	12
250	62	42	100

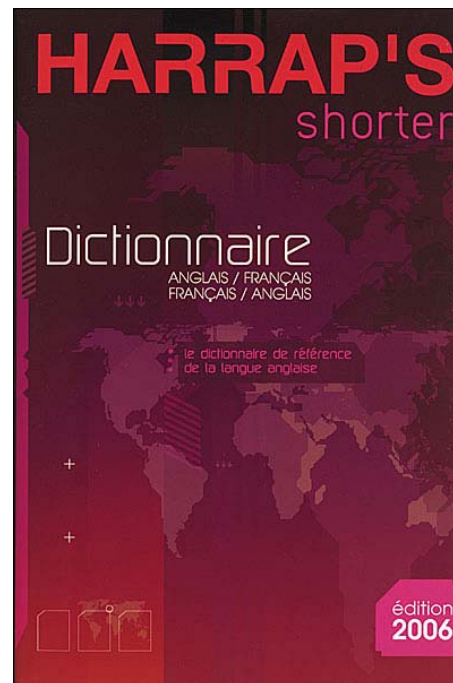
It will be true

I'm confident at 60%

BUY \$\$\$

Quel est le nombre de pages du Harrap's Shorter que vous avez eu entre les mains?

1. Moins de 800 pages
2. Entre 801 et 945 pages
3. Entre 946 et 1052 pages
- ✓ 4. Entre 1053 et 1099 pages
5. Entre 1099 et 1212 pages
6. Plus de 1212 pages





Hollywood Stock Exchange (HSX)

- Trading on securities corresponding to movies (MOVIESTOCKs) and stars (STARBOND)
 - Including those in production and in theaters
- Using fake money
 - *“Hollywood Dollars”*
- A movie security is liquidated 4 weeks after the release of the movie
 - for \$1 per \$1 million in box office gross
- Entertainment mechanism
 - Public interest
- Sophisticated mechanisms
 - Reserve & investment banks, leader boards, trading club, tickers, funds, options, warrants, *“Hollywood Securities and Exchange Commission”*
- Accurate predictor
 - Week-end revenue of movies, academy awards (35 on 40 Oscar nominees in 2003)

[Passmore, 2004] [Surowiecki, 2004]

Hollywood Stock Exchange (II)

illustration



HOLLYWOOD STOCK EXCHANGE

MOVIESTOCKS

Million Dollar Baby
[MDBAB]

STAR BONDS

Clive Owen
[CLOWE]

↑ Robots	HS\$113.55	3.78	↑ Ron Howard	HS\$85.69	1.50
↑ Million Dollar	HS\$30.61	3.00	↑ Steven Soderbergh	HS\$77.90	1.50
↑ Be Cool	HS\$67.45	2.50	↑ Julia Stiles	HS\$69.69	1.50
↓ White Noise	HS\$58.00	-2.00	↓ Jim Carrey	HS\$127.02	-1.00
↓ Coach Carter	HS\$66.08	-2.00	↓ Alan Rickman	HS\$169.81	-1.00

HSX RESEARCH WELCOME TO **HSX RESEARCH!**

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THE MOVIE MARKET

	01.07.05	12.31.04		01.07.05	12.31.04
	this wk.	last wk.		wkend	wkend
weekly traders	22,358	19,335	+13.5%▲	cum. box office	\$1,068.8M \$595.6M +44.3%▲
weekly trades	367,506	311,183	+15.3%▲	wkend box office	\$123.8M \$118.6M +4.2%▲
avg. daily trades	52,142	44,570	+14.5%▲	avg. per theater	4,422 4,111 +7.0%▲
new traders	1,061	771	+27.3%▲	new openings	5 6 -20.0%▼

THE INDUSTRY

SUBSCRIBER LOGIN

USERNAME

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Not a subscriber yet?

CONTACT HSX RESEARCH

MOVIE STOCK PRICE CHANGE

WEEKEND BOX OFFICE

Million Dollar Baby
Symbol: **MDBAB** Status: **Active** Genre: **Drama** Phase: **Release**
Price: **HS\$30.61** Change: **+3** Volume: **4,021,613** [QuickTrader](#)

Gross: **\$6,156,069** Release Date: **12/15/2004**

DESCRIPTION

Clint Eastwood directs and stars in the drama *Million Dollar Baby*. Hilary Swank plays a woman determined to become a boxer and gets training at a gym run by a couple of former champs, Eastwood and Morgan Freeman. Paul Haggis scripts the film based on two short stories by F.X. Toole.

Discuss *Million Dollar Baby* on the [Movies Board](#).

CREDITS

[Clint Eastwood](#) (Director)
[Clint Eastwood](#) (Actor)
[Hilary Swank](#) (Actor)
[Morgan Freeman](#) (Actor)

Distributor
Warner Bros. (domestic)

MDBAB

HIGH AND LOW TRADING PRICES

THIS WEEK	▲ HS\$27.61	▼ HS\$24.61
THIS MONTH	▲ HS\$27.61	▼ HS\$18.65
THIS SEASON	▲ HS\$27.61	▼ HS\$10.84

OPENING THIS WEEK: WIDE

Film title	Price	Audience Index		
[SYMBOL]	yesterday	last week	M	F
Are We There Yet?	HS\$35.0	HS\$35.8	101	100
[AREWE]				
Assault on Precinct 13	HS\$42.1	HS\$41.0	113	90
[ASP13]				

OPENING THIS WEEK: LIMITED/INDIE

Film title	Price	Audience Index		
[SYMBOL]	yesterday	last week	M	F

<http://www.hsx.com/>

Who's in the Prediction Business?

Prediction markets are gaining traction elsewhere in the Fortune 500, trying prediction markets to divine everything from the future price of LCD TVs to the number of consumers, who will buy forthcoming products.



	<i>Predicting the number of bugs in new software applications</i>
 HEWLETT PACKARD	<i>Forecasting microchip prices</i>
 General Electric	<i>Choosing the best new research ideas</i>
	<i>Predicting the dates of product launches</i>

Illustration

- Play session on marmix.unil.ch
- Nice prize to win
- Start 11:00am CEI room 6

The screenshot shows the marmix.unil.ch website. The browser title is 'marmix:forecasting the future - Mozilla Firefox'. The address bar shows 'https://marmix.unil.ch/'. The page content includes:

- Navigation links: HOME | About | Register | Login
- Language selection: FR | EN
- MARMIX logo and tagline: forecasting the future
- Introduction text: 'MarMix is a prediction market designed to predict the results of futur events about politic, economic, sport and leisure. You can find more informations about this project, the prediction markets and ourself in the "About" section of this website.'
- Announcement: 'The winner of the iPod Nano is: MSCF with an account value of HEC\$ 3235.82. The complete ranking will be available as of Monday on the website.'
- Market Activity Overview section with a table of trading data:

MARKET ACTIVITY OVERVIEW		QUOTES				
Total Trading Volume Today	0	Symbol	Bid (Qty)	Ask (Qty)	Last	Chge
Total Trading Volume last 7 Days	0	Business & Finance				
Total Trading Volume last 30 Days	0	MPAYMENT	72.00 (60)	74.00 (80)	None	0.00
Open Interest	0	Society				
Trader's home organisation		LDA	54.00 (60)	56.00 (60)	None	0.00
Total traders: 1		SWISSID	0.00 (0)	0.00 (0)	None	0.00
		LAMAL	0.00 (0)	40.00 (50)	None	0.00
unil.ch 100.00%		Sport				
		ALINGHI	74.00 (70)	76.00 (80)	None	0.00
		Technology				
		IMPULSE	46.00 (30)	49.00 (40)	None	0.00
		Tests				
		HARRAPS	0.00 (0)	0.00 (0)	None	0.00

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