

Use of Economic Tendency Surveys

UN Workshop Hangzhou

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ETH

Eidgenössische Technische Hochschule Zürich
Swiss Federal Institute of Technology Zurich

Outline

- 1 Measurement of Assessments and Expectations of the Businesses and the Consumers
 - Aims of ETS
 - Customers of ETS results
- 2 Composite Indicators
 - Motivation
 - Classical Approach (NBER)
 - Factor Analysis
- 3 Special Graphical Representations
- 4 Forecasting
 - Time Series Methods
 - Quantification
- 5 Economic Research

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Aims of Economic Tendency Surveys

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 - **assessment of stocks**

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 - expectations about price changes
 - **plans about employment**

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 - assessment of stocks
 - expectations about price changes
 - plans about employment
 - **capacity utilization**

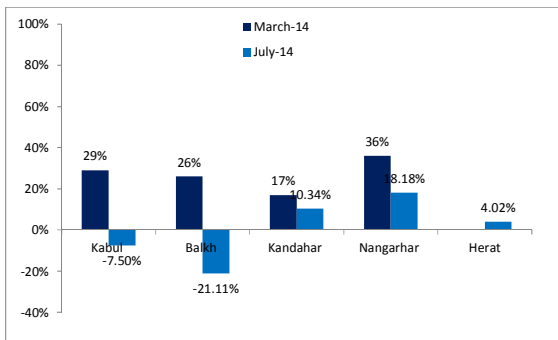
Aims of Economic Tendency Surveys

The information covered by ETS goes beyond topics which are usually captured by conventional quantitative statistics.

Examples include

- assessments (e.g. capacities, stocks)
- plans and expectations
- bottlenecks

Business Climate in Afghanistan



Graph 1b- Business Climate by Regions, Oct 2013 and March 2014

Source: Afghanistan Chamber of Commerce and Industries

Customers of ETS results

■ Respondents

Customers of ETS results

- Respondents
- **Enterprises**

Customers of ETS results

- Respondents
- Enterprises
- **Public and Media**

Customers of ETS results

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Customers of ETS results

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Customers of ETS results

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Customers of ETS results

Two broad categories of users according to their needs:

- **'Executives'** (e.g. senior business executives, politicians, senior civil servants responsible for government policy, senior personal in banks and financial institutions and the press and other media)

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- **'Analysts'** (e.g. economists and researchers operating in the academia, research institutions and governmental bodies)

Financial Times

August 14, 2014 5:04 pm

Russian shadow unsettles German business confidence

By Stefan Wagstyl and Chris Bryant in Berlin

FT.com
FINANCIAL TIMES

Financial Times

August 4, 2014 12:02 am

UK business confidence dips for first time in two years

By Brian Groom, Business and Employment Editor

FT.com
FINANCIAL TIMES

Any questions? Ask Customer Services

Financial Times

July 30, 2014 11:59 pm

UK consumer confidence falls for first time in six months

By Emily Cadman

FT.com
FINANCIAL TIMES

Any

Financial Times

Last updated: July 1, 2014 5:07 am

Japan's Tankan business survey falls after consumption tax rise

By Ben McLannahan in Tokyo

FT.com
FINANCIAL TIMES

Any questions?

The Economist

The screenshot displays the top navigation bar of The Economist Intelligence Unit (EIU) website. The bar includes the 'The Economist' logo, the 'Intelligence Unit' name, and a menu with 'Country', 'Industry', and 'Risk'. Below the navigation bar is a cookie consent banner. The main content area shows a breadcrumb trail: 'My EIU > Country > Hong Kong > Economy: Recent developments'. The title 'Hong Kong' is prominently displayed. Below the title is a sub-navigation bar with tabs for 'Summary', 'Politics', 'Economy' (which is selected), and 'Risk'. A message indicates 'Displaying article 1 of 4 articles' with navigation arrows. The date 'January 26th 2012' is shown. The main headline reads 'Poor business confidence points to challenges ahead'.

The Economist Intelligence Unit

Country Industry Risk

Our site uses cookies. By continuing to browse you are agreeing to

My EIU > Country > Hong Kong > Economy: Recent developments

Hong Kong

Summary Politics Economy Risk

Displaying article 1 of 4 articles ▶▶

January 26th 2012

Poor business confidence points to challenges ahead

The Economist

The screenshot shows the top navigation bar of The Economist Intelligence Unit website. The bar includes the 'The Economist' logo, 'Intelligence Unit', and several category tabs: 'Country' (highlighted), 'Industry', 'Risk', and 'Special rep'. Below the navigation bar is a cookie notice: 'Our site uses cookies. By continuing to browse you are agreeing to our use of cookies'. The main content area shows a breadcrumb trail: 'My EIU > Country > Cabo Verde > Economy: Forecast'. The title 'Cabo Verde' is prominently displayed. Below the title are four tabs: 'Summary', 'Politics', and 'Economy' (highlighted). The page indicates 'Displaying update 1 of 1 updates' and is dated 'August 12th 2014'. A 'Print' button is visible. The main headline reads: 'Business confidence falls to ten-year low'.

The Economist Intelligence Unit

Country Industry Risk Special rep

Our site uses cookies. By continuing to browse you are agreeing to our use of cookies

My EIU > Country > Cabo Verde > Economy: Forecast

Cabo Verde

Summary Politics Economy

Displaying update 1 of 1 updates

August 12th 2014 [Print](#)

Business confidence falls to ten-year low

The Wall Street Journal

THE WALL STREET JOURNAL. ☰

CHF1

TOP STORIES IN WSJ 1 of 12

 Autopsy Finds Six Shots Struck Teen

 Federal Authorities Wade Deeper Into Te...

2 of 12

 Missouri Gov. Deploys Natic Guar...

ECONOMY

Euro-Zone Consumer Confidence Keeps Climbing

Sentiment at Strongest Level Since Before Financial Crisis

The Wall Street Journal

THE WALL STREET JOURNAL. ≡

CHF1 A W

TOP STORIES IN WSJ

1 of 12



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Missouri Governor Deploys National Guar...

ECONOMY

South Africa Business Confidence Falls to 15-Year Low

Strikes Have Been a Drag on Economic Growth

Floyd Norris, May 2., 2014

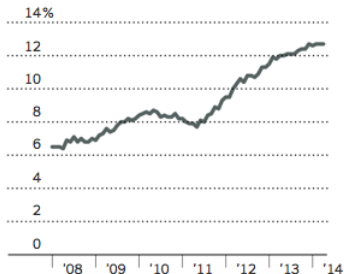
Italian Confidence Undimmed by Statistics, Floyd Norris

Italy Turns Optimistic

The Italian economy does not appear to be in good shape, with growth stagnant and unemployment high. But financial markets have turned up, and consumer confidence is at the highest level in years.

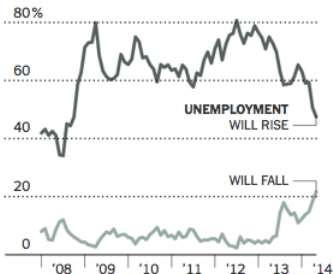
The unemployment rate in Italy is high . . .

Unemployment rate



. . . and many expect it to rise

Percent of consumers expecting that over the next 12 months:



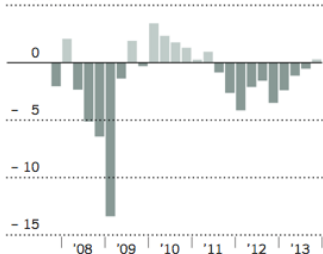
New York Times, May 2., 2014

Italian Confidence Undimmed by Statistics, Floyd Norris

Economic growth is stagnant . . .

Quarterly change in real G.D.P.

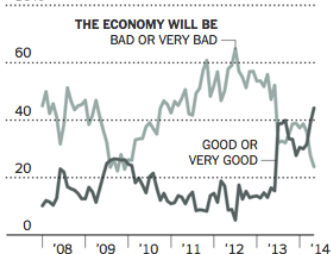
+ 5%



... but many expect it to improve

Percent of consumers expecting that over the next 12 months:

80%

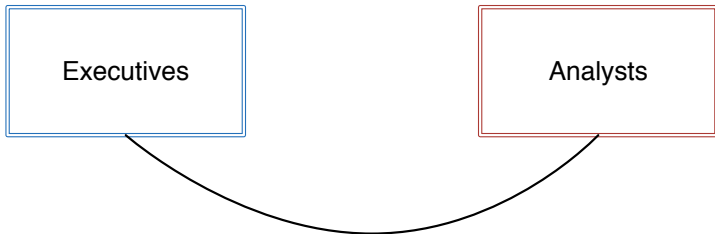


Executives

Analysts

Users of ETS

Users of economic tendency surveys



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Composite Indicators

Economic Tendency Survey data results are a popular ingredient of composite indicators.

The advantage of composite indicators over the individual component series are:

- **fewer false alarms and fewer missed turning points than its individual components**

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- more stable lead-times
- capacity to react to various sources of economic fluctuations
- **resilient to perturbations affecting only one of the components**

Composite Indicators

- **Soft/general questions vs. hard specific questions**

Composite Indicators

- Soft/general questions vs. hard specific questions
- **Selection of indicators**

Composite Indicators

- Soft/general questions vs. hard specific questions
- Selection of indicators
- **Aggregation of indicators**

Soft questions: Business Climate

Current Situation (CS)

We assess our current business situation for xy as

good

satisfactory

bad



Expectations for the next 6 months (EX)

Our business situation for XY will be – excluding seasonal fluctuations –

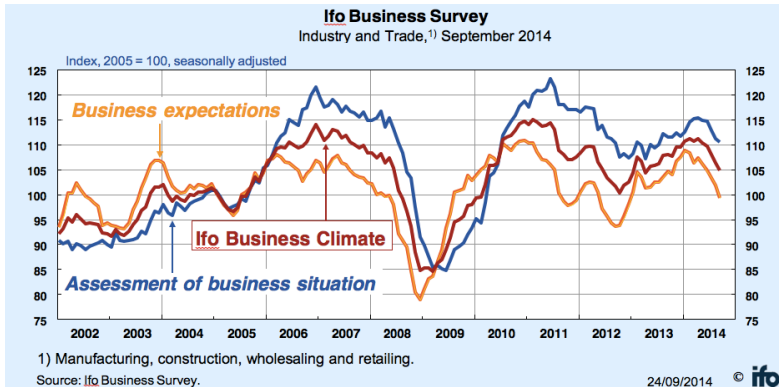
better

about the same

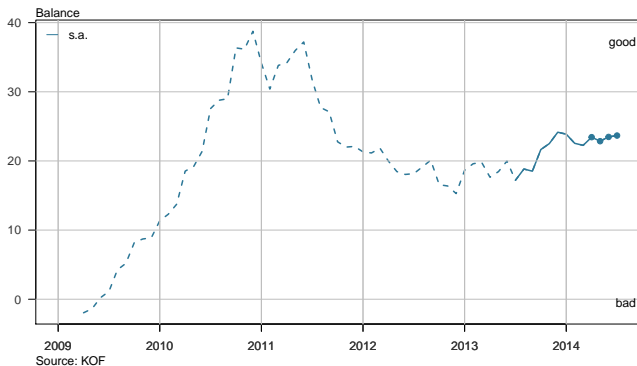
worse



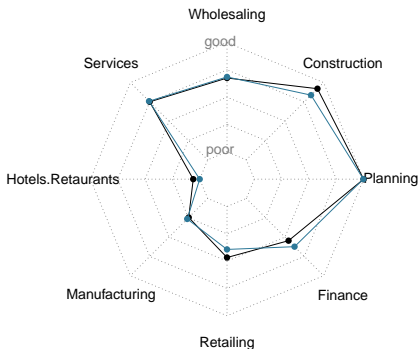
Ifo Business Climate



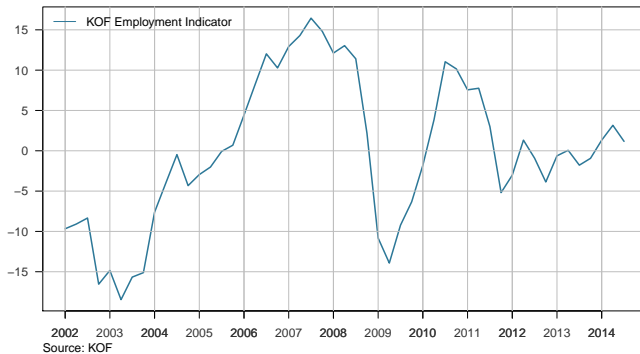
KOF Business Situation



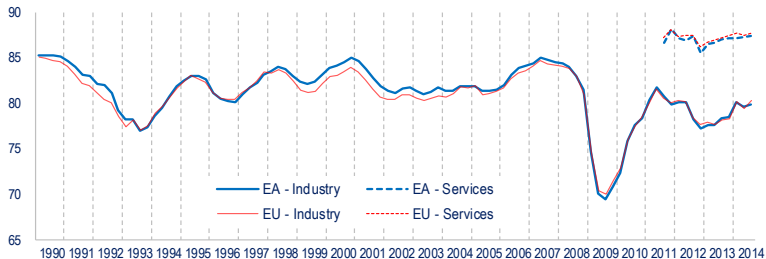
KOF Business Situation Radar



KOF Employment Indicator



DG EFCIN Capacity utilisation in %



Source: DG ECFIN

Hard questions: European Union

Industrial Confidence

- Assessment of order books
- Assessment of current stock of finished goods
- Production expectations

Hard questions: European Union

Service Confidence

- Development of business situation
- Development of demand
- Expected demand

Hard questions: European Union

Retail Trade Confidence

- Development of business activity
- Assessment of stock of goods
- Expected business activity

Hard questions: European Union

Construction Confidence

- Assessment of order books
- Employment plans

Hard questions: European Union

Consumer Confidence

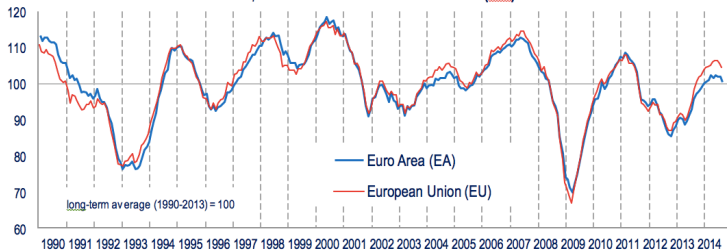
- Expected financial position of household
- Expected general economic situation
- Expected number of people unemployed
- Household intention to save

DG EFCIN Economic Sentiment



BUSINESS AND CONSUMER SURVEY RESULTS

Graph 1: Economic sentiment indicator (s.a.)



source: European Commission services

Approaches

Question:

How can we condense information contained in various indicators into one (or at least in a view) indicator(s)?

- Classical (NBER)
- Factor analysis

Classical Approach

Steps in Classical Approach

- Choose and classify indicators (de-trending, cross-correlations, turning points, co-spectral analysis)
- Standardize indicators
- Average indicators (and standardize)

Factor Analysis

Factor Models

- a common force drives the dynamics of all variables
- common force, also known as common factor, is typically of low dimension and is not directly observed because every macroeconomic variable embodies some idiosyncratic noise or short term movements
- factor models clean every variable from these idiosyncratic movements and estimate the common component in every series

Factor Analysis

Let Z_t be a N -dimensional multiple time series. It is assumed that (Z_t) admit a factor model representation with r common latent factors F_t ,

$$Z_t = \Lambda F_t + e_t \quad (1)$$

where e_t is a $N \times 1$ vector of idiosyncratic disturbances.

OECD System of leading indicators

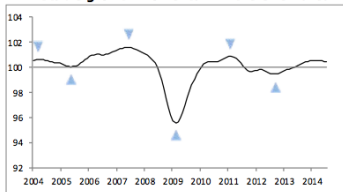
To get some ideas about possible indicators look for example at the OECD website.

The link to the indicator department is: [OECD Indicator Department](#)

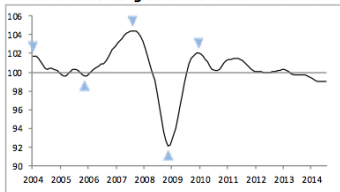
The link to the composition of OECD Leading Indicators is: [OECD Leading Indicators](#)

OECD System of leading indicators

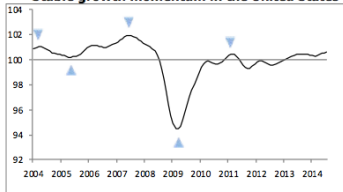
Stable growth momentum in the OECD area



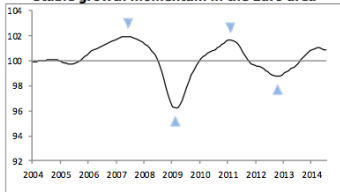
Stabilisation of growth momentum in China



Stable growth momentum in the United States



Stable growth momentum in the Euro area



OECD System of leading indicators

Look at the different country indicators. There are various types of indicators. E.g.:

- Production, stock of orders, employment, unfilled job vacancies, new car registrations, housing starts, nights spend in hotels
- business tendency surveys
- consumer surveys
- various price figures and share prices, terms of trade, exchange rate, silver price
- interest rates (spreads), bank credits
- indicators of other countries

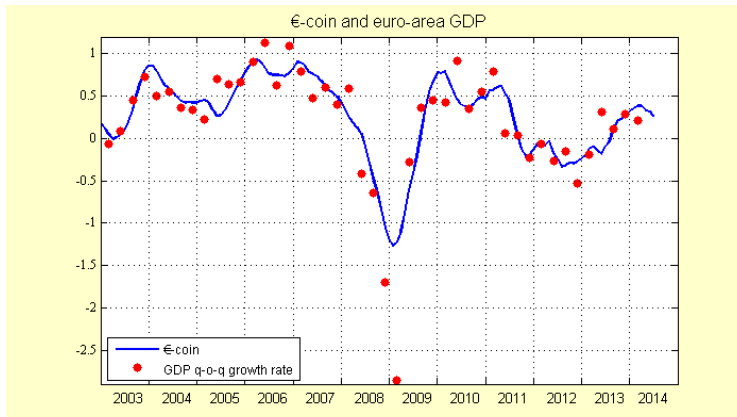
.... and much more.

Insee French Business Climate

Normalised to 100 with a standard error of 10



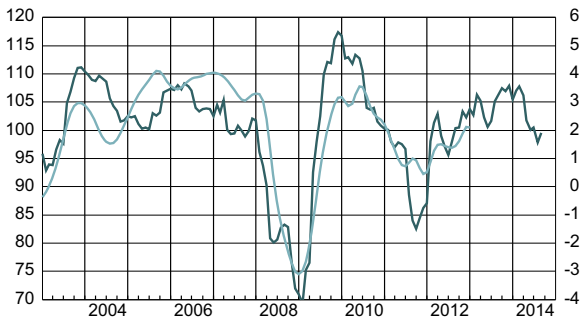
Eurocoin



Source: Bank of Italy

KOF Barometer

Economic Barometer and Reference Series

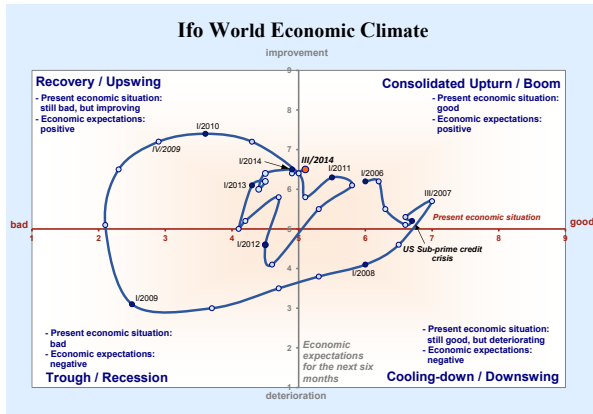


- KOF Economic Barometer
(Index values; long-term average 2003–2012 = 100; left scale)
- Month-on-month change of the Swiss business cycle
(Reference series; SECO/KOF, right scale)

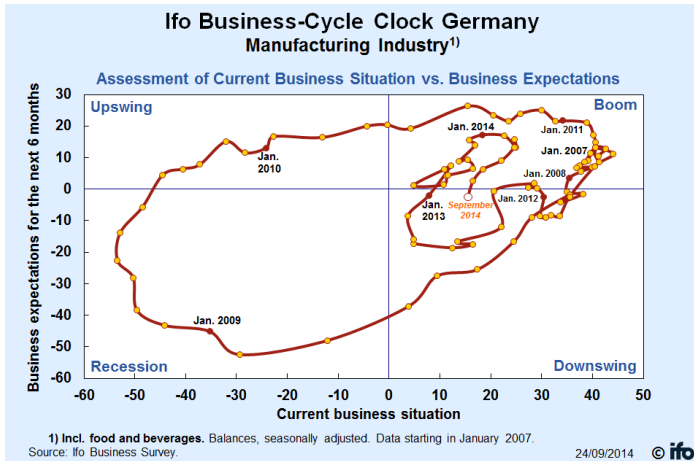
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Ifo Business Cycle Clock



Ifo Business Cycle Clock

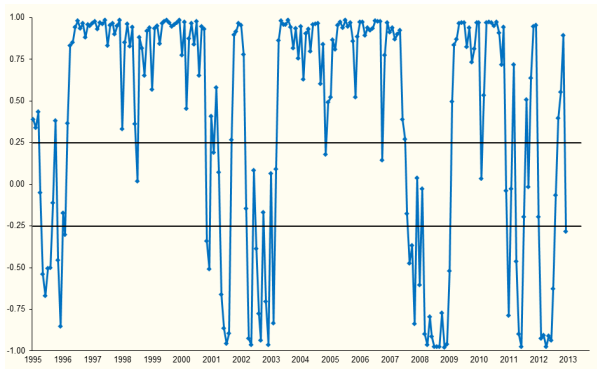


Example of a Business Monitor (Clock)

German Federal Statistical Office: [Business Cycle Monitor](#)

Statistics Netherlands: [Business Cycle Tracer](#)

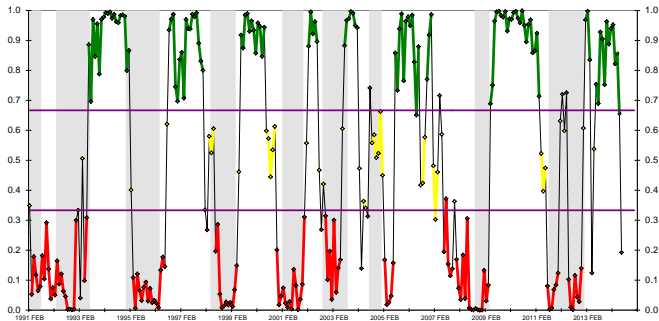
DG EFCIN Turning point indicator for the euro area



Probability for upswing minus probability for downswing

Source: OECD

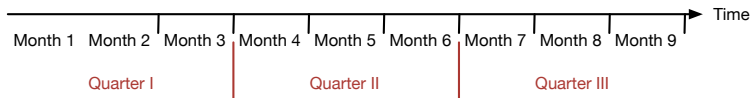
Ifo Business Cycle Traffic Lights



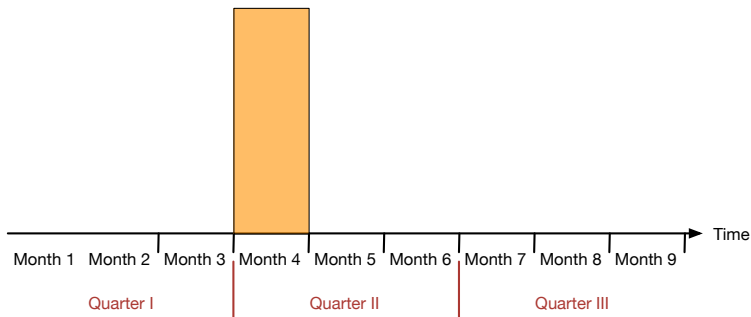
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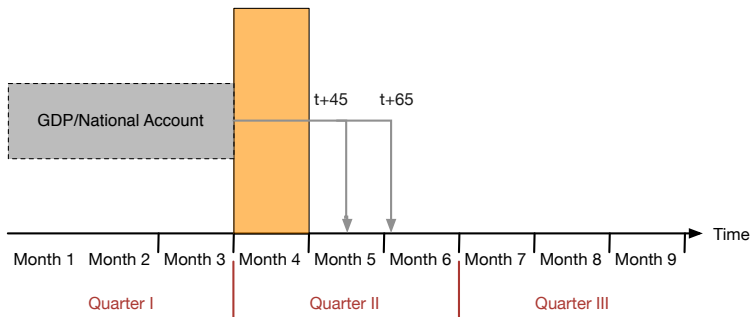
????casting



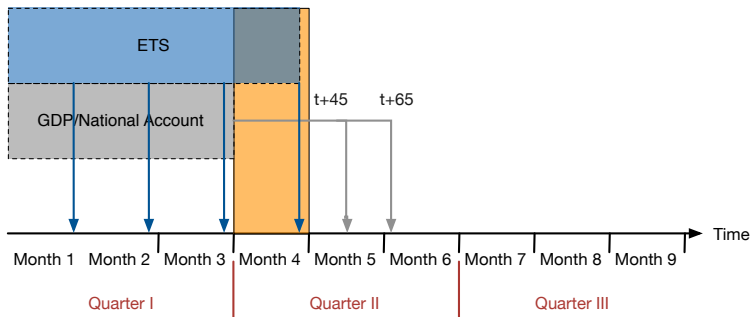
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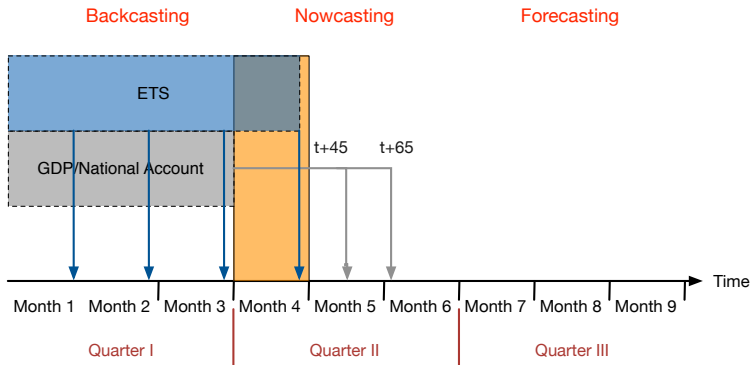
????casting



????casting



????casting



Forecasting with time series models

For example bridge models

$$Y_t = \alpha + \sum_{i=1}^p \beta_i L^i Y_t + \sum_{j=1}^n \gamma_j L^j \bar{X}_t + \epsilon_t$$

Quantification

The use of ETS results in economic analysis requires a previous step of conversion of qualitative figures into quantitative data

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- **Workhorse is the balance statistic (percentage share of positive answers minus percentage share of negative answers)**

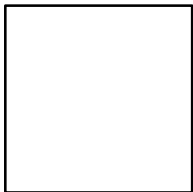
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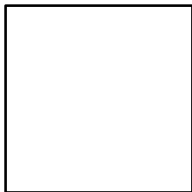
- Workhorse is the balance statistic (percentage share of positive answers minus percentage share of negative answers)
- **Other approaches: probability method, regression approach**

Quantification: Probability Approach

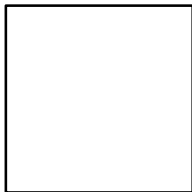
decrease



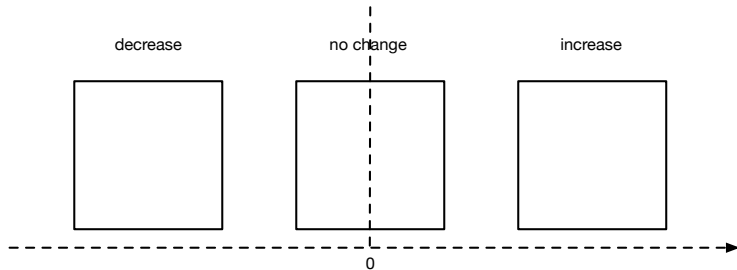
no change



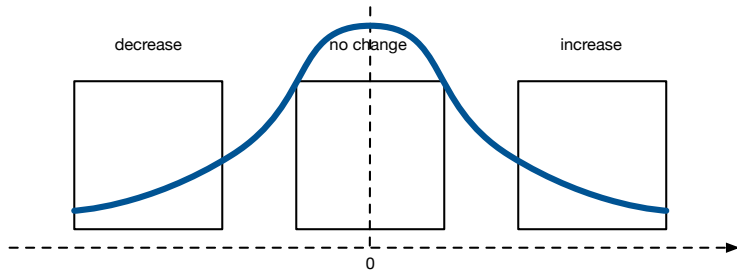
increase



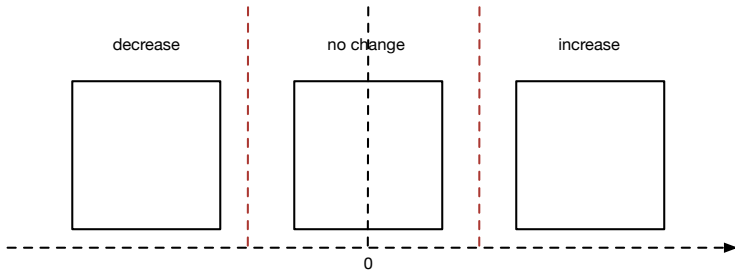
Quantification: Probability Approach



Quantification: Probability Approach



Quantification: Probability Approach



Quantification: Regression Approach

The regression approach uses the **relationship between actual values** (measured by official statistics) **and respondents' perception of the past** (reported in the business surveys as judgements) as a **yardstick for the quantification of respondents' expectations about the future**. Thus, quantitative expectations are function of a specific regression model rather than a specific probability distribution.

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Economic research (macro and micro)

Expectation formation
(on which information base?)

Epidemiological Expectations Hypothesis

Status Quo Bias

Economic research (macro and micro)

Permanent income hypothesis

Credit access/
credit crunch indicators

Transmission of shocks (industries/international)

CIRET Conference 2014

- The job market situation, inflation and changes in consumption in relation to consumer survey results
- Do Consumers in Europe Anticipate Future Inflation? Has it Changed Since the Beginning of the Financial Crisis?

CIRET Conference 2014

- Quantification and Characteristics of Households' Inflation Expectations in Switzerland
- Synchronisation of economic cycles in Latin America: evidence from the World Economic Survey

CIRET Conference 2014

- Shocks and the Expectations Formation Process. A Tale of Two Expectations
- The Role of Expectations in Labor Supply Dynamics

CIRET Conference 2014

....and indeed: lots of business cycle analysis and forecasting!

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