China's Official Statistics
& Rapid Estimate Approaches

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TO BE PRESENTED

- Brief Introduction to China's Official Statistics

- Economic Monitoring Approaches in NBS

- Rapid Estimates of Current Situation of China's Economy

China's Official Statistics

- National Bureau of Statistics: Most Economic indicators: GDP, value added in all industries, price statistics, population,……

- Statistical agencies in various ministries: Monetary data from Central Bank, import-export data from the Customs, fiscal revenue from Ministry of Finance, R&D data from Ministry of Science and Technology…….

Major Statistical Department in NBS(I)

- Industry: Industrial Statistics
- Energy: Energy production and consumption
- Investment: Investment, Real-estate, Construction
- Trade: wholesale and retail, international trade, tourism
- Service: Transportation and Telecom, other service sectors

Major Statistical Department in NBS(II)

- Rural: Agricultural production, purchasing price of agricultural goods.

- Urban: Price statistics (CPI, PPI, Price for house, price for investment goods), city statistics

- Household: Income and expenditure for both rural and urban residents

- Population: population, labor force, employment,

- Social and Science&Tech: Science&Tech, environment…

Major Statistical Department in NBS(III)

- Statistical Design: Methodologies
- National Accounting: GDP
- Comprehensive: Economic Analysis, press release
- China Economic Monitoring & Analysis Center: Business tendency survey, composite indicators, consumer confidence survey, experts survey…

Two Channels under NBS Across China

- National, Provincial, City-level, County-level statistical bureaus. affiliated to local government. Major statistics.

- National, Provincial, City-level, County-level(part of counties) survey organizations: affiliated directly to NBS. Statistics for: price, household income&expenditure,

Data Collection Method

- Periodic Census: Population (10 years), Agriculture(10 years), Economic Census(5 years)

- On-line reporting directly to NBS: enterprises with size above certain level(RMB 20 million for manufacturing)

- Sample survey: enterprises below certain size, income & expenditure, price, annual population, agricultural productions……
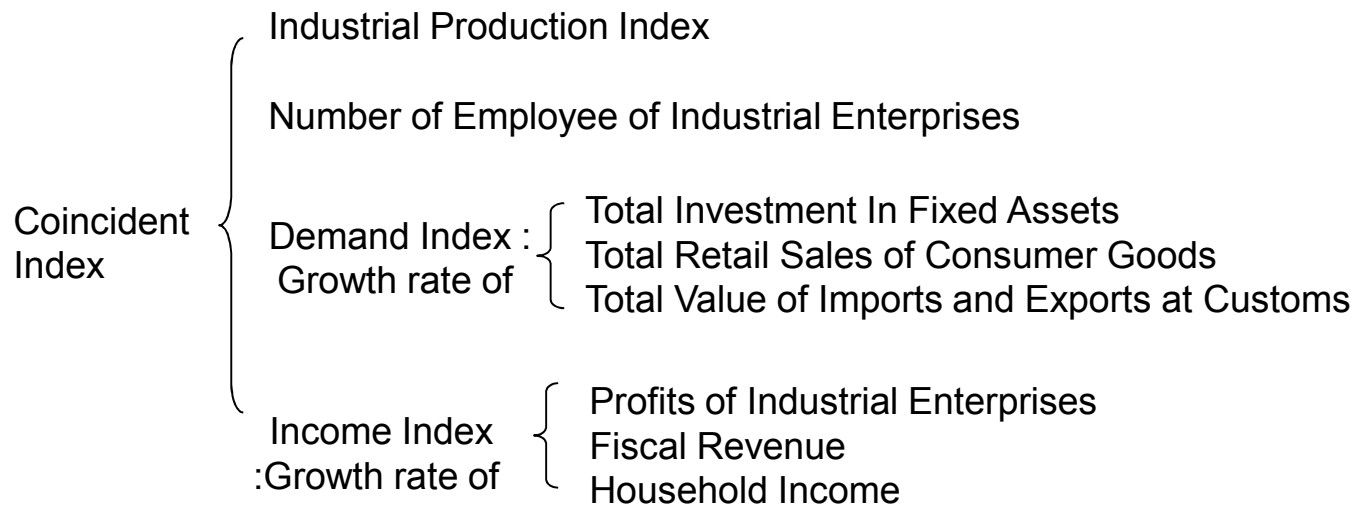
Rapid Statistics Approaches in NBS

- Composite Index Approaches
- Business Tendency Survey
- PMI
- Consumer Confidence Survey
- Economist Survey
- Big-Data approaches

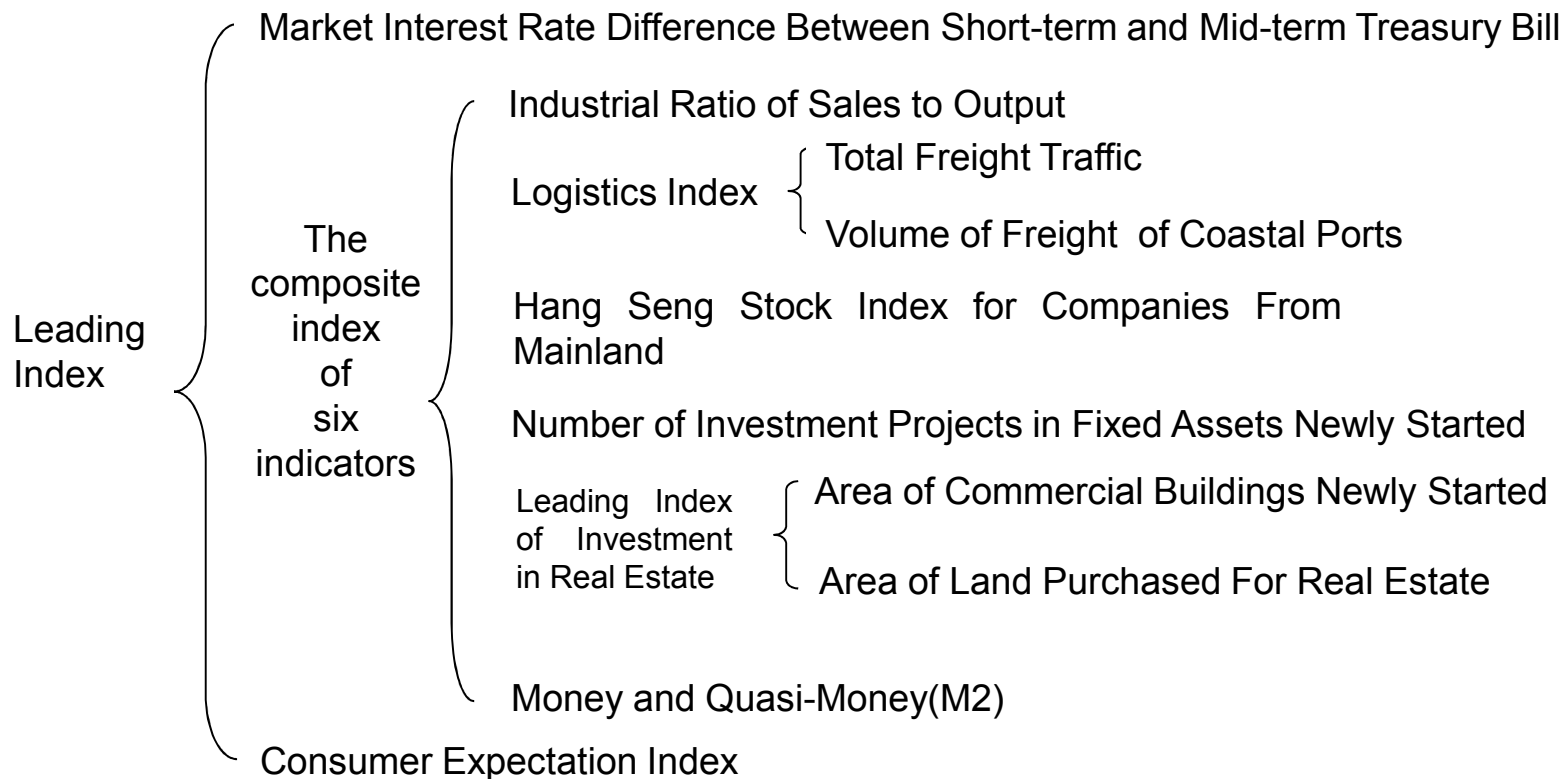# Compilation of Composite Index

Composition of Coincident Index

Coincident Index
- Industrial Production Index
- Number of Employee of Industrial Enterprises
- Demand Index : Growth rate of
  - Total Investment In Fixed Assets
  - Total Retail Sales of Consumer Goods
  - Total Value of Imports and Exports at Customs
- Income Index :Growth rate of
  - Profits of Industrial Enterprises
  - Fiscal Revenue
  - Household Income

Weights of Indicators in Coincident Index

Coincident Indicators	Weight
Industrial Production Index	**0.59**
Number of Employee of Industrial Enterprises	**0.50**
Social income index	**1.28**
State Tax Revenue	0.80
Profits of Industrial Enterprises	1.00
Per Capita Disposable Income of Households	1.20
Social Demand Index	**1.63**
Investment in Fixed Assets	1.00
Total Retail Sales of Consumer Goods	1.20
Total Value of Imports and Exports	0.80

Composition of leading index

Leading Index
{
- Market Interest Rate Difference Between Short-term and Mid-term Treasury Bill
- The composite index of six indicators
  {
  - Industrial Ratio of Sales to Output
  - Logistics Index
    {
    - Total Freight Traffic
    - Volume of Freight of Coastal Ports
    }
  - Hang Seng Stock Index for Companies From Mainland
  - Number of Investment Projects in Fixed Assets Newly Started
  - Leading Index of Investment in Real Estate
    {
    - Area of Commercial Buildings Newly Started
    - Area of Land Purchased For Real Estate
    }
  - Money and Quasi-Money(M2)
  }
- Consumer Expectation Index
}

Weights of Indicators in leading index

| Leading indicators	Weight
Leading Six Indicators Composite Index	**2.36**
Hang Seng Stock Index for Companies From Mainland	0.60
Ratio of Sales to Gross Output Value	1.15
Money Supply (M2)	1.20
Investment Projects of Fixed assets Newly Started	1.20
Logistics Index	1.05
Among which: Total Freight Traffic	1.00
Volume of Freight Handled in Major Coastal Ports	1.00
Leading Index of Investment in Real Estate	0.80
Among which: Area of Land Purchased For Real Estate	1.00
Area of Commercial Buildings Newly Started	1.00
Consumer Expectation Index	**0.28**
Market Interest Rate Difference Between Short-term and Mid-term Treasury Bill	**0.36**

Weights of Indicators in Lagging Index

Lagging Indicators	
Public Finance Expenditure	**0.68**
Short-term Loans	**1.09**
Household savings deposits	**0.67**
Consumer Price Index	**1.05**

Leading index V.S. Coincident Index: Same tendency as declining, but difference is getting greater. Structural changes.
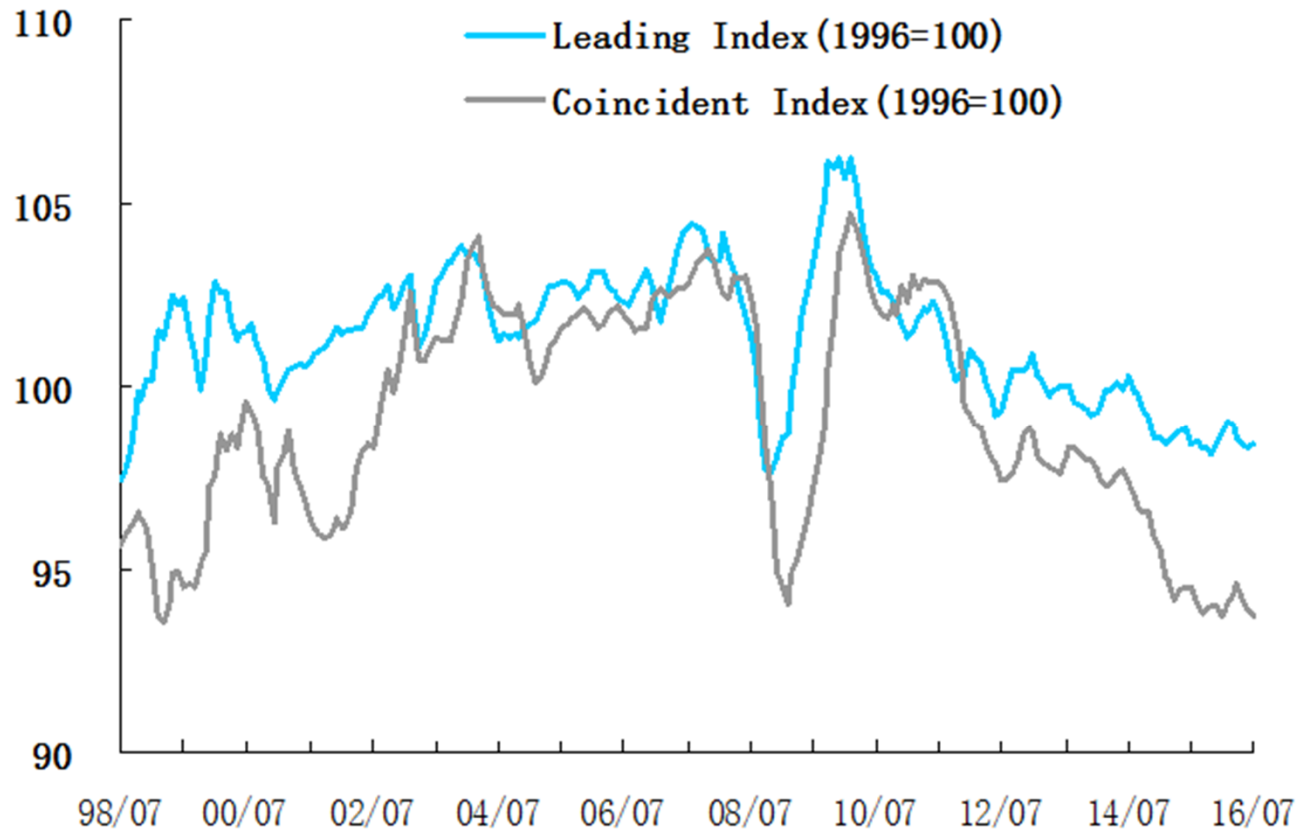
Early Warning Index: China's economy is close to cold area, but since it is growth cycle, such a judgement need to be adjusted.
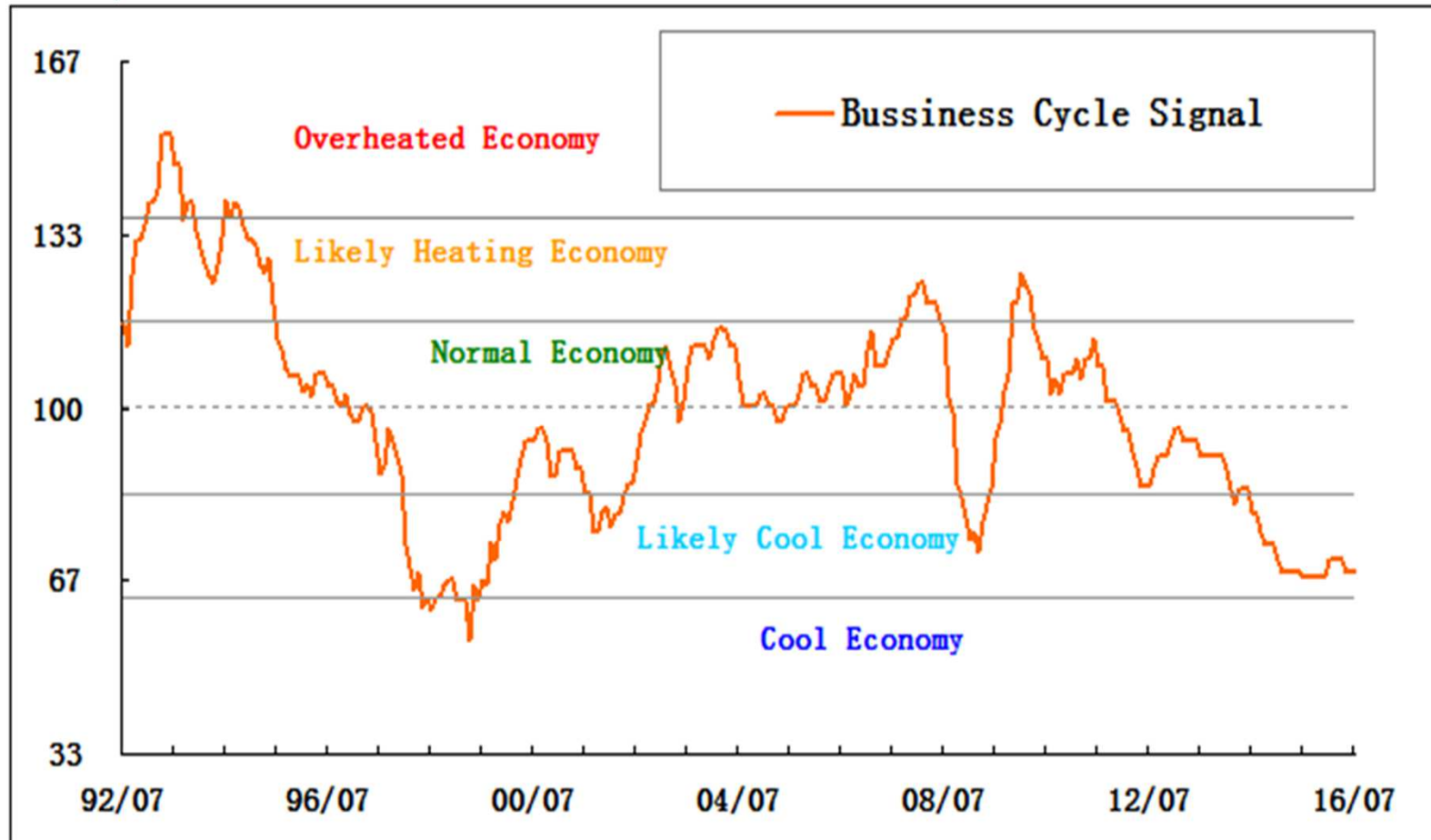
Business Tendency: sampling size of sectors(346,000 in total)

1. Industry (Manufacturing, Mining, Public Utility) 86000
2. Construction 36000
3. Whosale and Retail 50000
4. Transport& Post 32000
5. Hotel & Cartering 35000
6. IT 11000
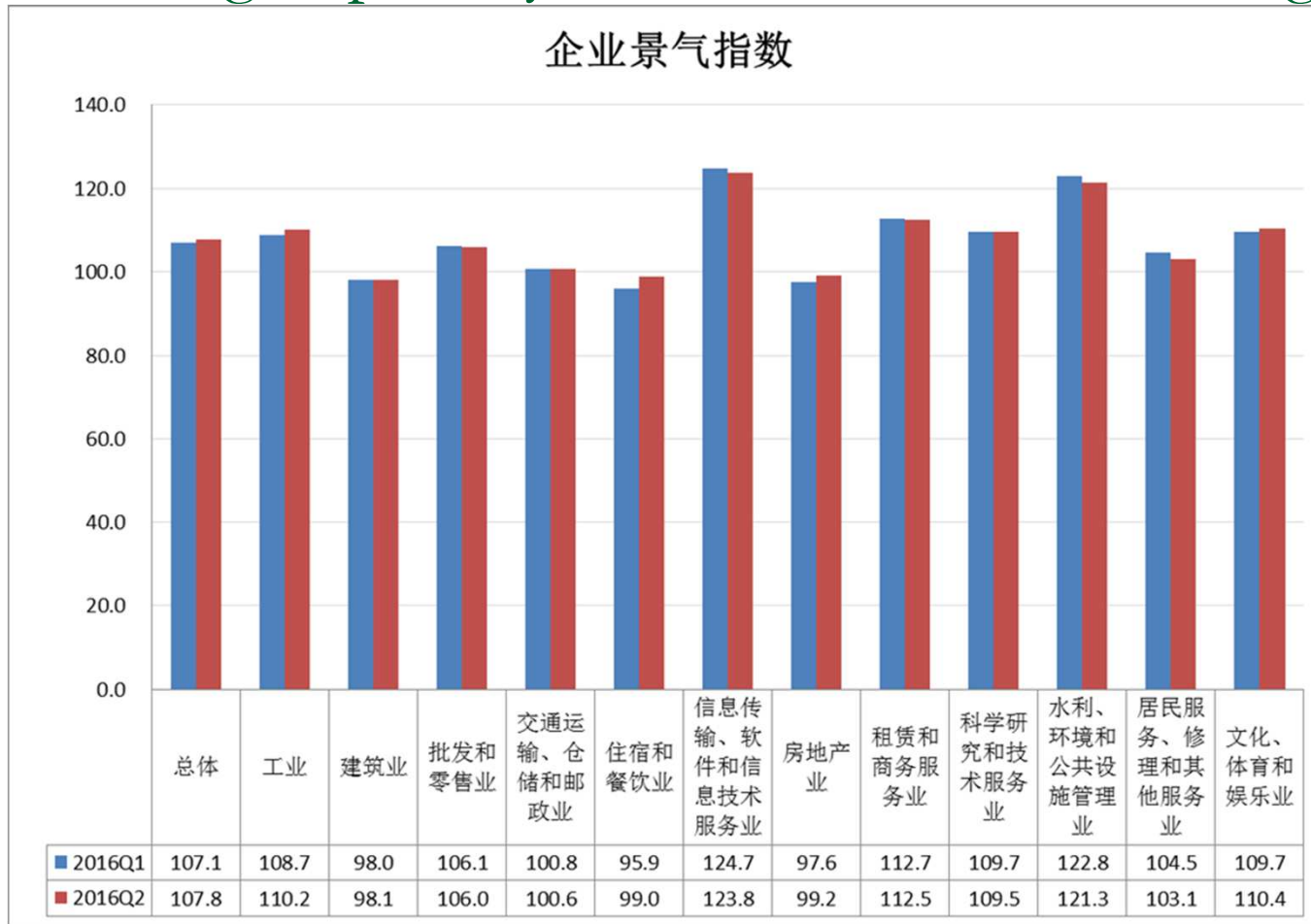7. Real Estate 46000
8. Others 50000

Main Questions

- Common Questions: Assessment of Current Situation, Expectation for the Next Period, Orders (almost all), Profit, Finance, Inventories, Labor Wanted, Investment plan

- Special questions: special to sectors:

- Manufacturing : capability utilization

- Construction: number of newly started projects

- Real Estate: land newly purchased, new projects under construction, area of houses to be sold

- Retail and Wholesale: inventories
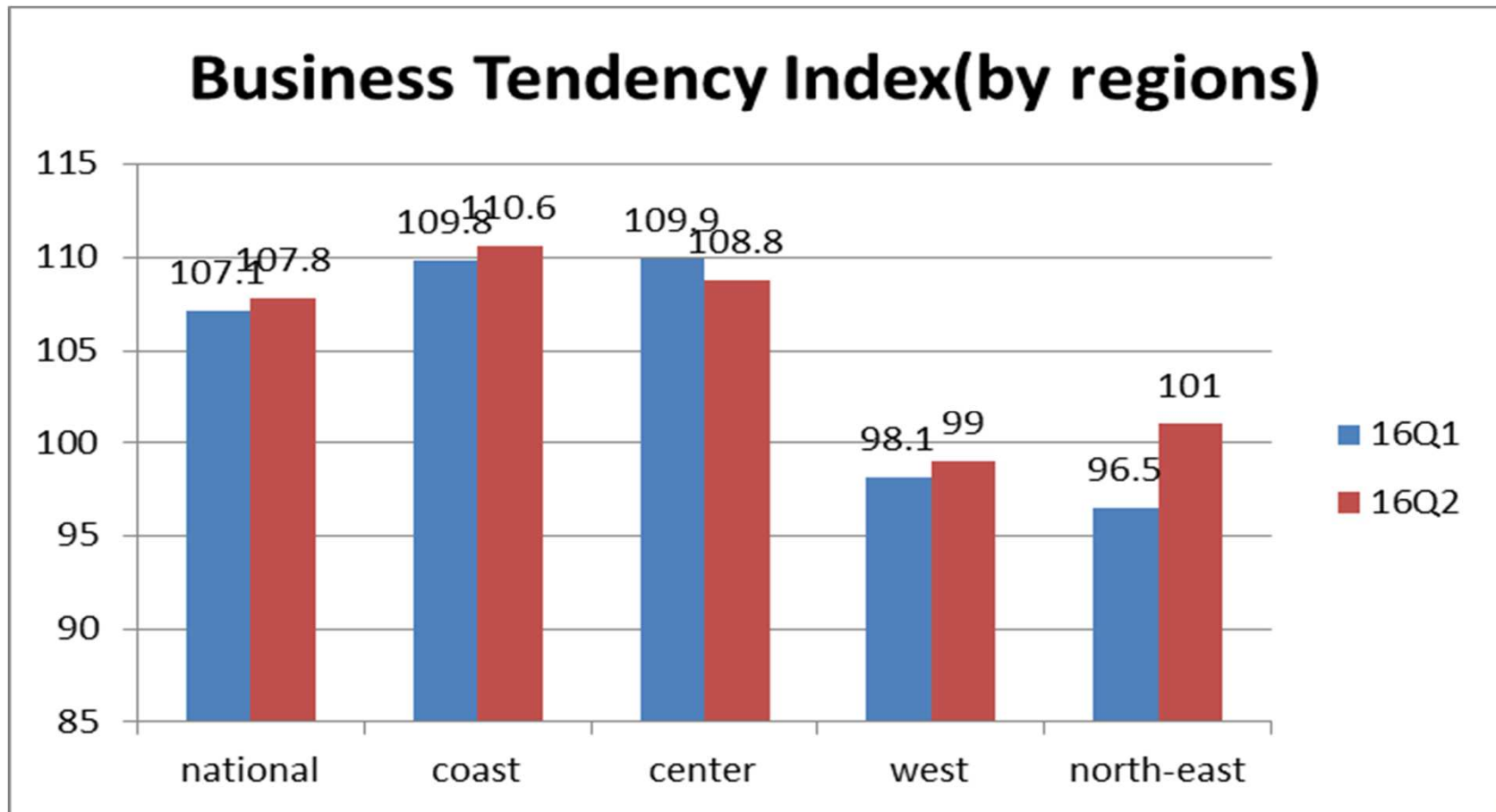
- Hotel :reserve rates etc.

Survey Approaches

- Quarterly survey, conducted in the end of March, June, September, and December

- Online survey, fixed sampling units. Sampling Scheme: PPS

- Sample size: around 350,000

- Business Climate: Assessment & Expectation for operation of own company

- Index=40%Satisfaction+60%Expection

- Entrepreneur Confidence Index: Assessment & Expectation for Industrial Situation.

Recent Survey Results Shows the Variation of China's Economy :by sectors: Services are better than manufacturing, especially service for msanufacturing.


企业景气指数

	总体	工业	建筑业	批发和零售业	交通运输、仓储和邮政业	住宿和餐饮业	信息传输、软件和信息技术服务业	房地产业	租赁和商务服务业	科学研究和技术服务业	水利、环境和公共设施管理业	居民服务、修理和其他服务业	文化、体育和娱乐业
2016Q1	107.1	108.7	98.0	106.1	100.8	95.9	124.7	97.6	112.7	109.7	122.8	104.5	109.7
2016Q2	107.8	110.2	98.1	106.0	100.6	99.0	123.8	99.2	112.5	109.5	121.3	103.1	110.4

Variations by regions: coast area is behaving more healthy.

Variations by Size: greater firms are more optimistic, getting better
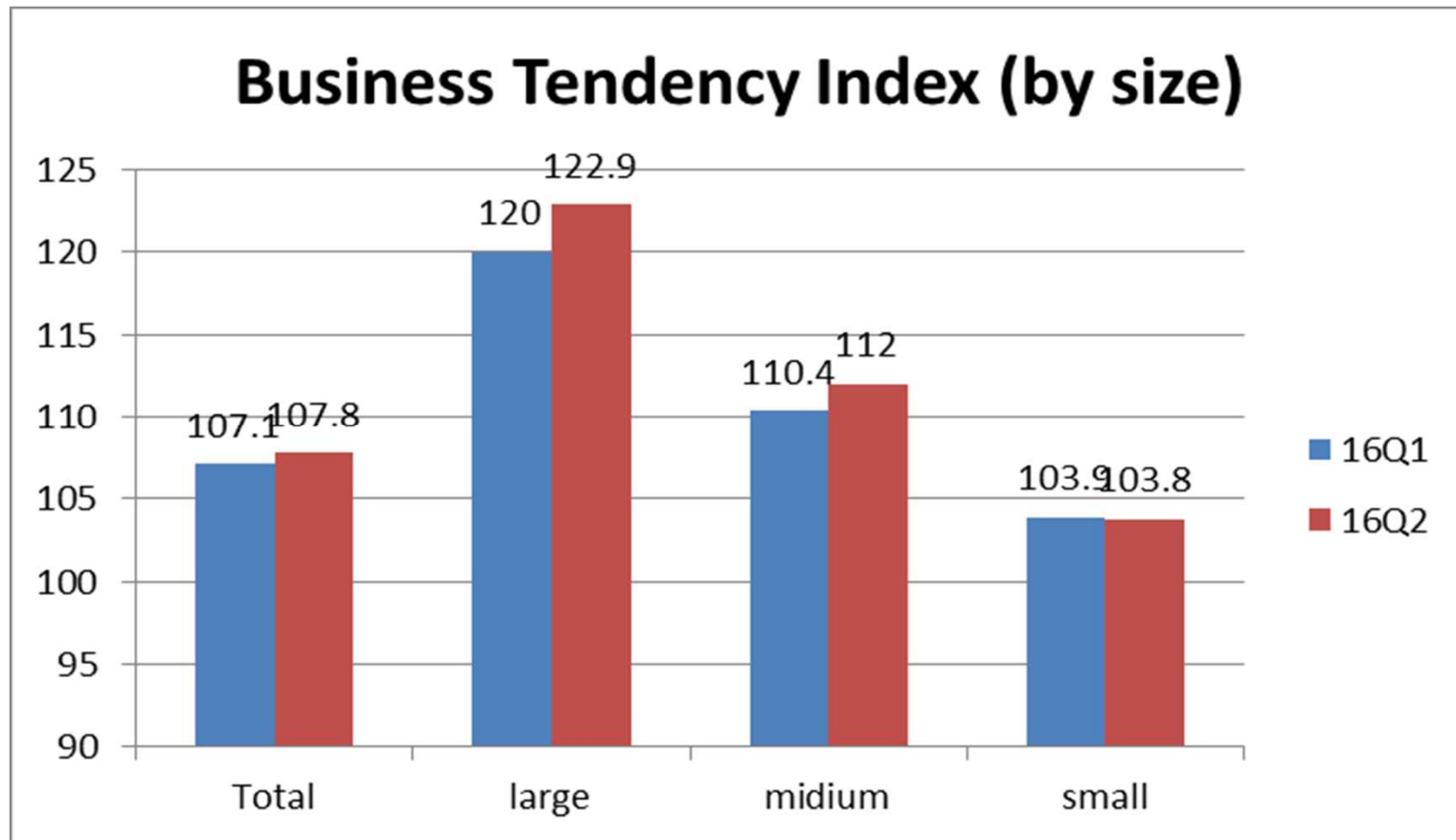
The index of order is showing a formation of the market bottom.
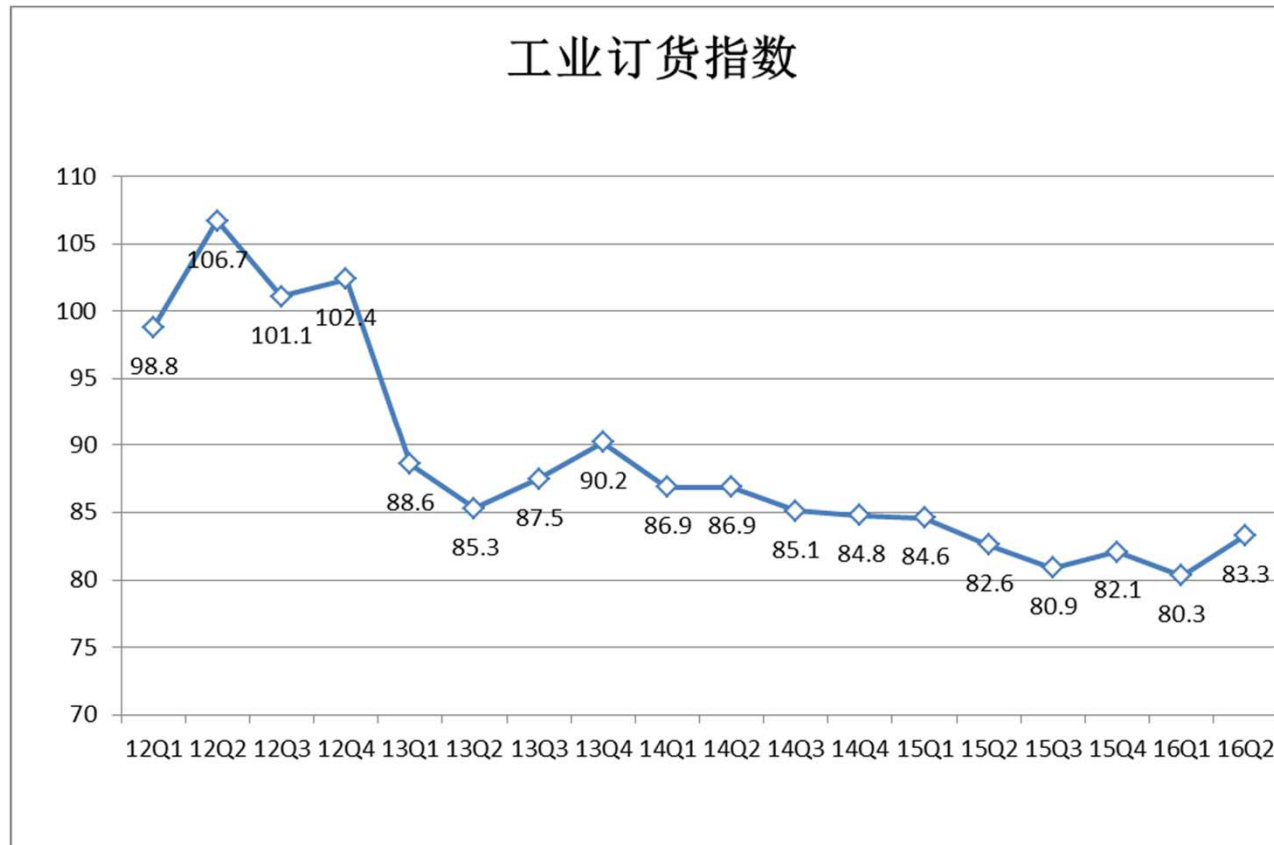
PMI Survey: Main Questions: all compared with that of last month-chain comparison. It is common that PMI is not consistent with other index which are with annual change base.

- production
- orders, orders from oversea
- inventory
- purchasing volume
- import
- purchasing price, production price
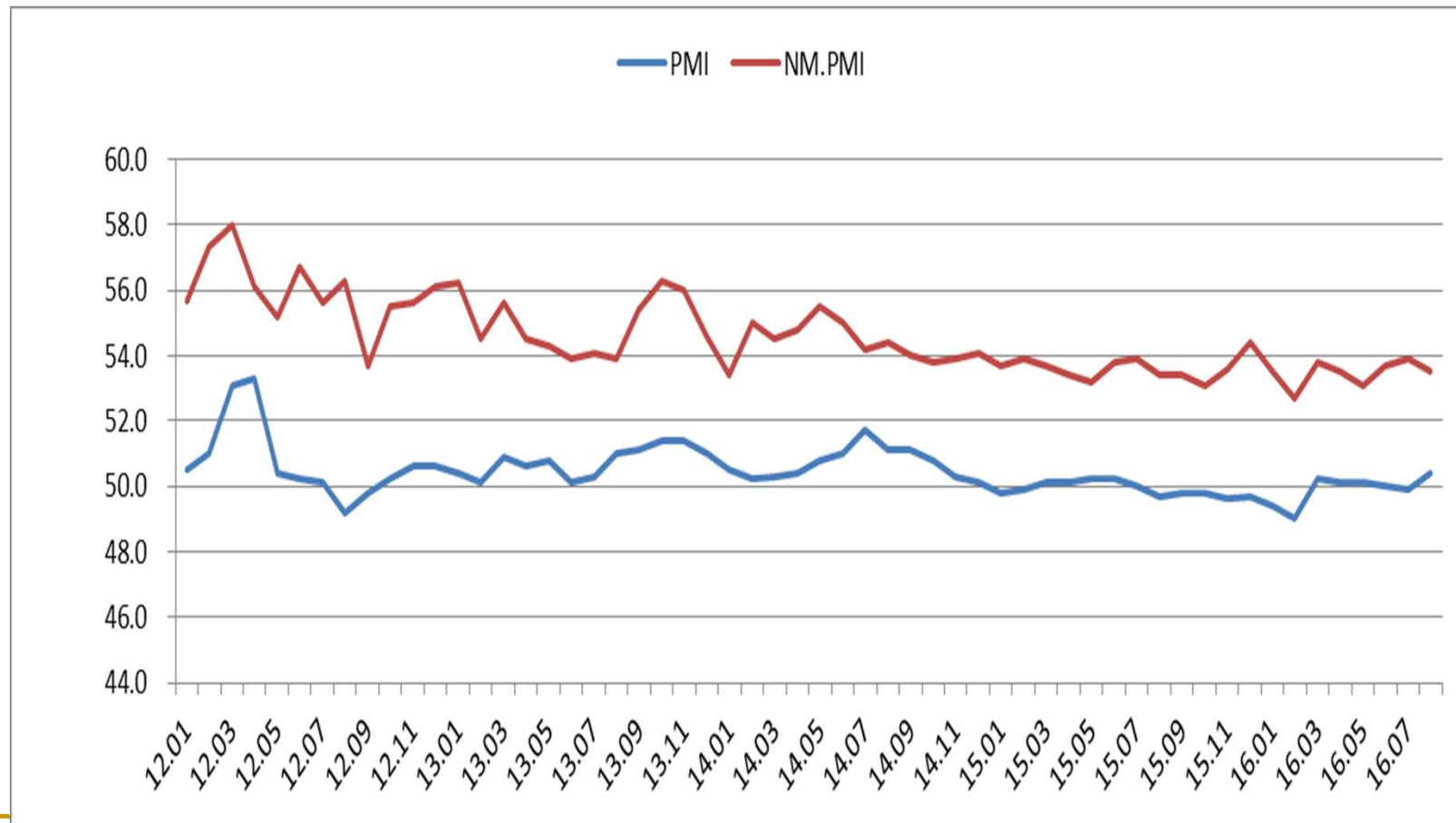- employment
- time needed for delivery

Survey Approaches

- Monthly survey, conducted in 22-25 each month, released on 1st of each month.

- Online survey, fixed sampling units. Sampling Scheme: PPS

- Sample size: around 6000 ; 3000 for manufacturing and another 3000 for non-manufacturing

- The Responders: Purchasing managers

- PMI calculation: weighted average of all questions.

PMI shows the economy is keeping a L shape, but diversified in sectors.

Consumer Confidence Survey

- Sample size: 3400: 12 provinces

- Monthly , CATI

- CCI=Satisfaction Index*40%+Expectation Index*60%

Questions

- Three Major Questions: Income, Employment, Willingness to buy goods
- CPI, Price for House, What to buy,

Consumer confidence index is fluctuating but with a tendency of slightly upturn, showing the contribution of consumption to GDP growth is increasing while GDP growth rate is keeping declining.
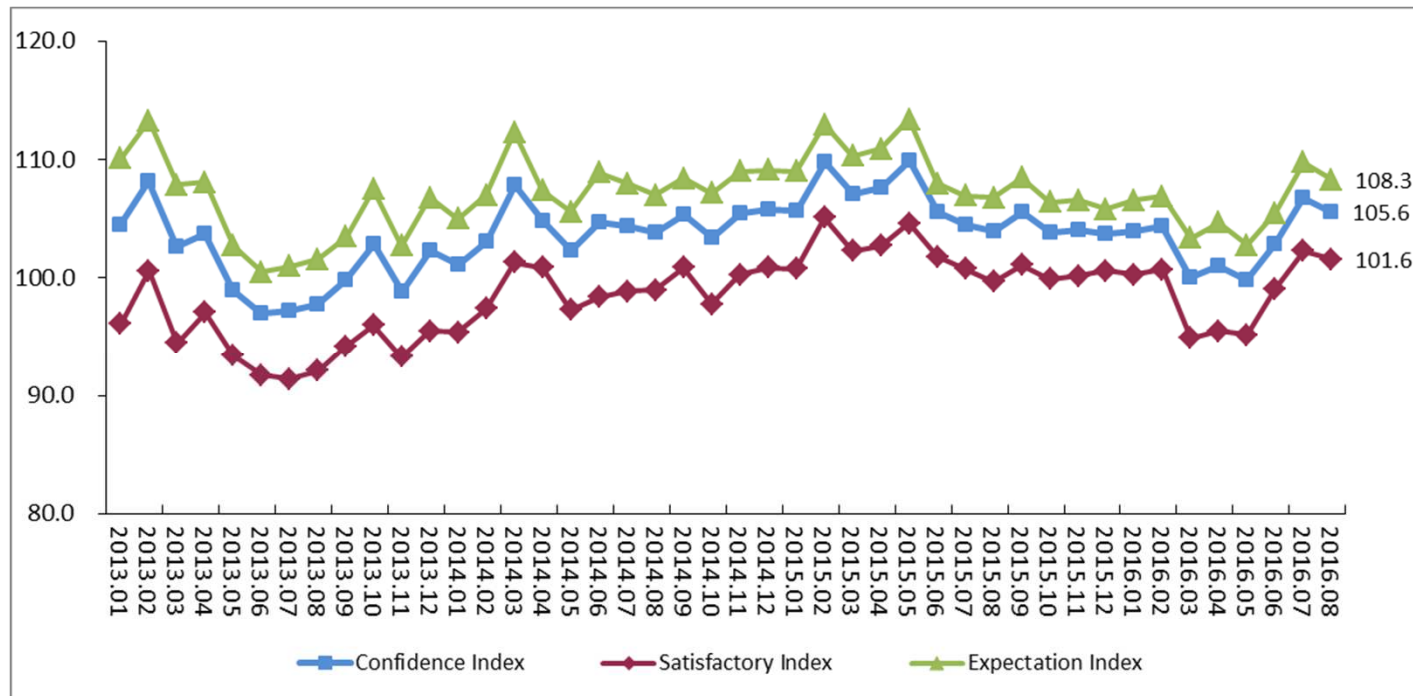
Economist Survey

- Started from 2004, quarterly, 80 responses in average each wave.

- 30 questions, including 10 fixed questions as:

- Overall assessments of current economy and expectation of the future; estimate of dynamic changes of investment, consumption and export; Monetary policy expectation; CPI……

- Confidence Index=Avg (Assessment+Expectation)

Assessment for current economy is getting moderate improvement but expectation is even worse.

Economist Confidence Index:2004Q1-2016Q2
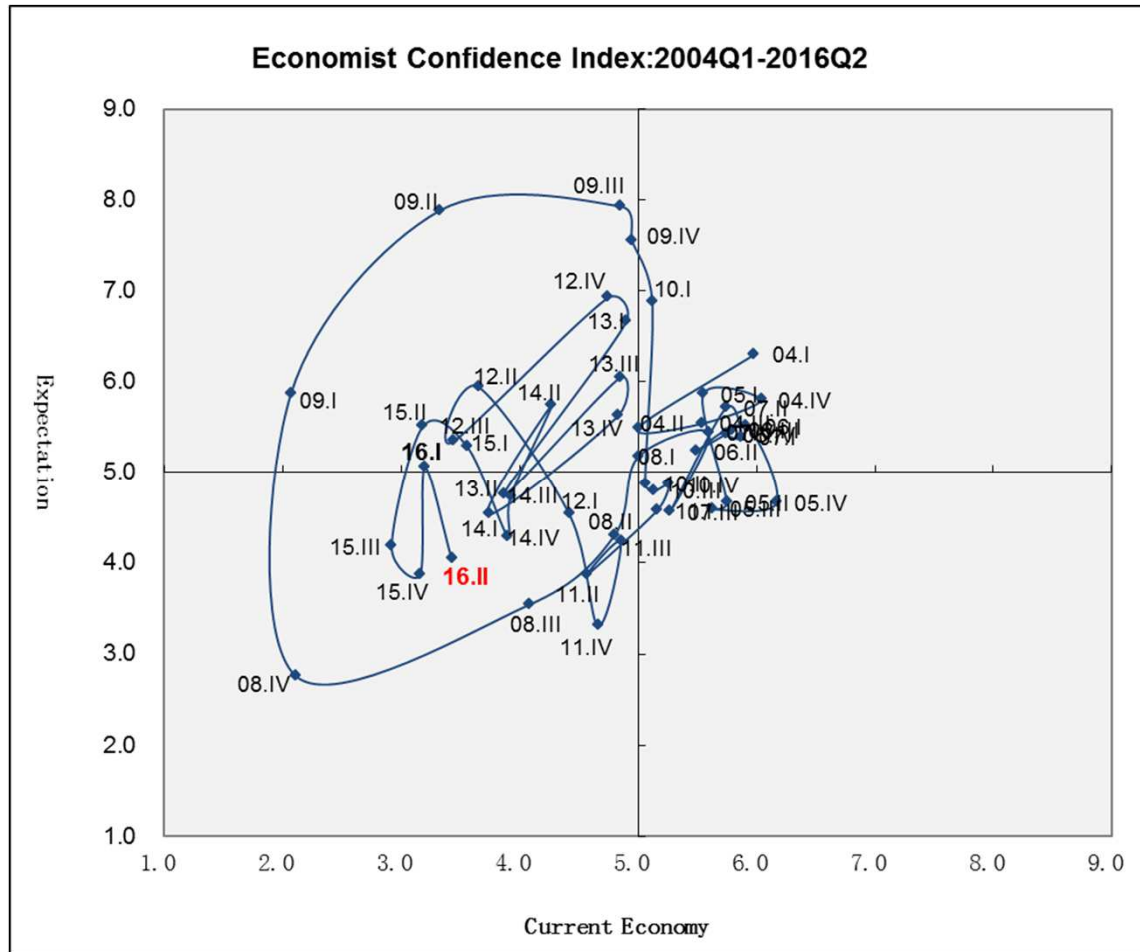
Big-Data approaches: PPI

- Cooperation between a private company, Zhuochuang Information, which is a private company focusing on China's commodity price statistics, releasing price index for 50 commodities in 9 sectors for every ten days.

Price changes between 2016.08.21-2016.08.30

Product	Price	Changes (%)
1、Steel		
螺纹钢（Φ16-25mm,HRB400）	2547.2	1.4
线材（Φ6.5mm,HPB300）	2607.5	1.6
普通中板（20mm,Q235）	2764.2	1.9
热轧普通薄板（3mm,Q235）	2955.3	3.2
无缝钢管（219*6,20#）	3312.9	3.5
2、Non-Nonferrous Metal		
电解铜（1#）	36601.6	-1.7
铝锭（A00）	12657.5	-0.2
铅锭（1#）	13884.4	1.0
锌锭（0#）	17789.9	2.1
3、Chemical		
硫酸（98%）	155.0	0.0
烧碱(液碱，32%)	644.7	3.2
甲醇（优等品）	1747.6	0.2
纯苯（石油苯，工业级）	5346.9	1.7
苯乙烯（一级品）	8283.8	1.1
聚乙烯（LLDPE，7042）	9484.2	1.4
聚丙烯（T30S）	8436.1	0.4
聚氯乙烯（SG5）	5947.9	-0.4
顺丁胶（BR9000）	11058.8	-0.5
涤纶长丝（FDY150D/96F）	7750.0	0.9
4、Oil &Gas		
液化天然气（LNG）	2944.6	0.3
液化石油气（LPG）	2740.0	1.6
汽油（97#）	7319.4	2.5
汽油（93#）	5546.1	3.3
柴油（0#）	4545.7	4.1
石蜡（58#半）	6437.7	-2.3
5、Coal		
无烟煤（2 号洗中块）	809.2	0.0
普通混煤（4500 大卡）	379.4	2.0

Very suitable estimates for PPI

工业生产者出厂价格涨跌幅
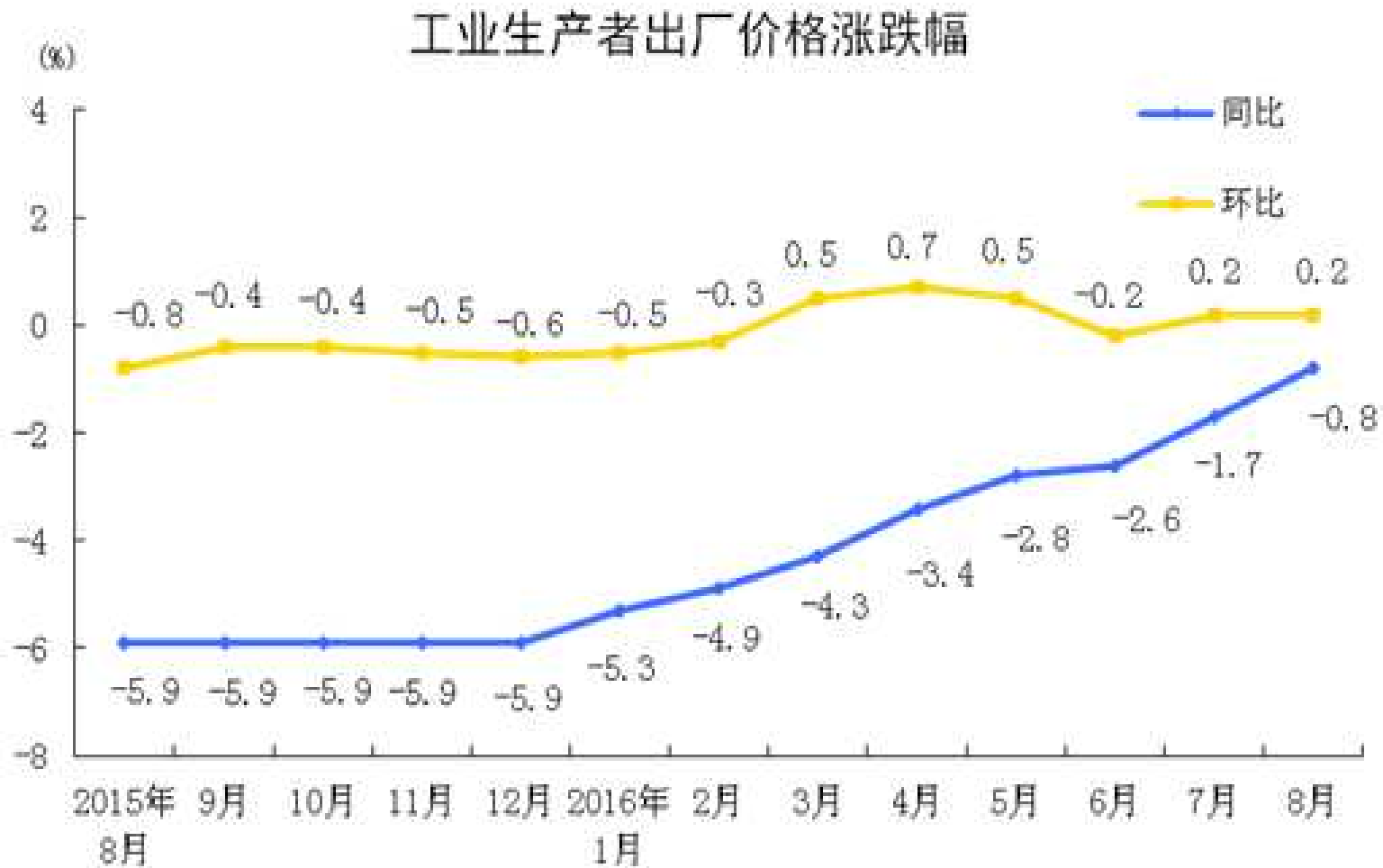
Conclution

- China's economy will be keeping declining, but in a very moderate way. The major pressure are the huge inventory of houses, and weakening of the driving force of exports.

- Variations in sectors, in regions, and among investments and consumption are significant.

- Innovation is very important for China's sustainable growth in the next five years since it is losing the advantage in labor force, resource, and capital investment.

THANKS !