Stagnation, Investment and Innovation In Europe and Japan

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After 2008...

Eight years after the collapse of Lehman Brothers, the global financial crisis persists and world economic recovery seems insecure.
I  Secular Stagnation
Secular stagnation...

Larry. Summers, one of the most influential economist in the U.S. revived Alvin Hansen’s (1887–1975) concept of secular stagnation to explain economic weakness in the U.S. since 2008.
This threat may be greater for the *Europe and Japan*, where slow population growth, slow technological innovation and low demand erode private investment, especially corporate investment.
Real Economic Growth Rate in Euro Area: 1992-2014
Investment in Euro Area (GDP ratio(%) 2000-2015)

IMF

2000-2015

Germany
Greece
Ireland
Italy
Latvia
Lithuania

00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15

0 5 10 15 20 25 30 35 40 45

Germany
Greece
Ireland
Italy
Latvia
Lithuania
Investment in Euro Area (GDP ratio(%))

2000-2015

Luxembourg
Malta
Netherlands
Portugal
Slovakia
Slovenia
Spain
Driving force of business cycle and economic growth

= corporate investment
Key Determinants of Corporate Investment

- Population
- Expected profitability
- Technology Progress
- Energy price
- Future demand
Expected profitability...

Expected profitability = future profit per machine.
Expected profitability...

It is impossible to observe future profit.

Therefore, economists calculate proxy variable for expected profitability.

We call it “Tobin’s marginal q”.

Abel and Blanchard (1986)
II Expected Profitability
Expected profitability…

We tried to calculate marginal q using huge firm-level micro data in Europe and Japan.

Let’s take a look!
Germany

(N=11200)
France

(N=47041)
UK

(N=7301)

Marginal q: GB

0.79
Ireland
(N=614)

Marginal q: IE

0.55
Finland

(N = 7588)

Marginal q: Fl

Year

0.52
Belgium  (N=3682)

Marginal q: BE

0.40
Spain
(N=12502)

Marginal q: ES

0.47
Portugal

(N=12013)

Marginal q: PT

0.47
Greece

(N=2416)

Marginal q: GR

0.34
Poland
(N=2091)

Marginal q: PL


0  1  2  3  4

0.57
Bulgaria
(N=873)

Marginal q: BG

0.53
Czech

Marginal q: CH

0.40

(N=3883)
Hungary
(N=626)

Marginal q: HU

0.43
Japan

(N=20258)
Change of expected profitability
2000-2013
Change of expected profitability 2000-2013
1) Expected profitability in Europe have a tendency to decrease since the mid 2000s.

2) There is no visible sign of recovering except UK.

3) It is likely that secular stagnation in Europe will continue.
1) There is a remarkable discrepancy between North and South in Europe.

2) There seems to be some factors which affect the discrepancy. (productivity, population growth, economic system, .......)
III Expected profitability and Productivity
economic growth
investment
expected profitability (marginal q)
productivity (TFP)
innovation
Impact of TFP on marginal q

\[ mq_{it} = \alpha_i + \beta TFP_{it} \]

(panel model)
Hope...

The expected profitability is stimulated by the total factor productivity (TFP) in major European countries.

In particular, Germany and France, two of the greatest economies in the Euro region, should be the first to take the initiative to accelerate Innovation.
Ongoing new movements of innovation based on the IOT in these countries are really indispensable to overcome secular stagnation and it should be the driving force of the Euro zone’s economy.
European economy is covered with fog of uncertainty such as Brexit, immigrants, financial fragility.

To remove uncertainty which covers expected profit is also indispensable to escape from stagnation. (Japan is no exception)
Thank you for your attention......
Step ① cover the past profit series with hose

fix the tip of the water

= specification of Stochastic process

= specification of expectation

= rational expectation
Step 4

expected profitability = sum of the geometric series

Abel and Blanchard (1986)