

Spring 1942

## Notes taken by Minsky on Oscar Lange's class "Business Cycle Theory"

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Oscar Lange

Economics ~~307~~ 332

Business Cycle Theory

Spring Quarter 1942

Lecture Notes + Reading Notes

Class meets Tu, Th + Sat  
at 2:30 P.M. in S.S. 106.

Hours:

Range 2.15

2:30 TuTh. & Friday at 2:30

Prerequisites: 301.

Assume a knowledge of  
Monetary Theory

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## Business Cycle Theory

Refers to Prof. Cox's ~~work~~ course  
in business cycle facts in  
School of Business.

Refers to facts which business  
cycle theory is supposed to explain

3 or 4 parts to course.

1. Facts of the Business Cycle.
2. History of Business cycles.
- 2a. Discussion of such aspects of Econ Theory which have a relevance for the explanation of business cycles
3. Study of factors which determine level of Business activity

21, 12  
4. The Business cycle itself.

Mr Keynes General theory of  
Employment, Interest & Money?

Haberler: Two parts:

1) description of various business  
cycle theories / Best available  
amount of  
cheerful parts

2) Systematic Theory of explanation  
of Haberler's Business cycle  
Theory.

Harrod: Trade Cycle: One of  
the most systematic treatment  
of contemporary business cycle  
theories

Cycles

(Readings prior to class meetings)

Basic fact of the Business cycles, regular succession of periods of prosperity and depression

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During the last 100 years more the leading industrial countries were subject to alternating periods of prosperity and depression; Back to the beginning of the 19<sup>th</sup> century.

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This succession called the

'Business Cycle' and it is the explanation of this that Business Cycle theory is concerned with.

Distinction between Business Cycle & earlier fluctuations of good +

Bad times:

Earlier fluctuations corresponded

to quantity of resources available  
for use in business production

<sup>Factors</sup>  
~~Causes~~ such as good + bad  
crops, war, pestilence etc.

Technological progress &  
deterioration

---

Essence of modern Business  
cycle is not that economic  
well being undergoes certain  
fluctuations but the fact  
that present fluctuations  
between prosperity & depression  
are not fluctuations in  
the quantity of available  
resources but in the degree  
of utilization of the resources  
This fact is the essential feature  
of modern business cycle.

Changes in degree of utilization of economic resources:

- unemployed labor.
- ~~and~~ plants not used to capacity.
- idle money

Distinguishes modern business cycles from earlier fluctuations.

① Why are resources not always fully utilized e.g. what determines degree of utilization.

② Why the more or less regularity in the degree of fluctuations.

Will discuss various business cycle theories: Will not sketch a definite theory.

# Main features of Business

Cycles: 1. Fluctuations of Output.

Prosperity - High

Depression - Low

## Output in General,

~~not~~ not output of specific goods.

- ① Fluctuation of output
  - ② Fluctuation of employment
- Account for fluctuation in employment
- in principal output can vary with employment not varying. The fluctuation in output can to a major degree be explained by the fluctuation in employment.
- This part of fluctuation can be explained by changes in technology



Fluctuation of

- ① output
  - ② employment
- | basic  
major pattern

3. ~~prices~~

3. aggregate money income  
National money income

Statistical evidence

4. Volume of investment/unit of time

above the primary features of  
 business cycles. Occur in  
all business cycles:

Secondary feature:

- a) feature which either can be deduced from above
- b) feature which occurs in most business cycles but in which there are known exceptions

Friday

Business Cycles; Empirical Analysis

primary  
features:

- 1) output  
2) employment  
3) national money  
income  
4) investment

Secondary Features:

either features which can be deduced from above or which occur in some, most, but not all cycles.

Fluctuations of prices.

(1) price level of commodities.

a) in all depressions index of prices falls

b) in all except one boom prices rose; in the 1923-29 Boom

index of prices were falling but all primary features were indications of boom.

(2) interest rates:

fall in depression  
rise in boom.

in 1932 recovery ~~it's~~ in  
35-40 Interest rate did not rise

Interest rates not [Range 1. P<sub>2</sub>  
the only feature which  
describes our credit  
market.

[credit market not a perfect  
market. a certain amount of  
rationing always takes place.

Conditions of credit rationing change  
over the business cycle. Higher  
grade securities in boom.

2) interest rate + credit  
conditions

---

3. Fluctuation of rate of  
return on investment

4. Output of investment  
goods fluctuates more markedly  
than output of consumer goods.

4.B. Prices of investment goods  
fluctuate more than price  
of consumer goods.

---

prosperity - expansion  
depression - contraction

Customary to classify business cycle  
into two parts

I. Upswing or Expansion

II. Downturn or Contraction

I Upswing or Expansion  
to. Revival

2. Recovery.

II Downturning or Contraction

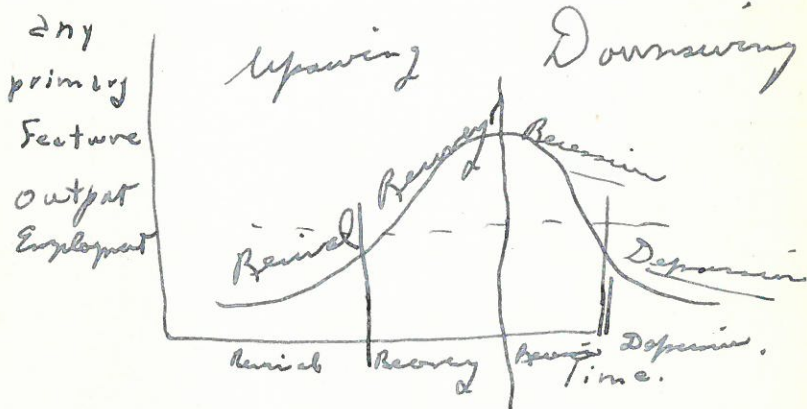
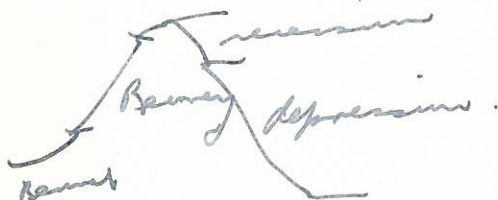
1. Recession

2. Depression.

Language 2 P3

Traditional  
classification  
into 4 phases

Difficult to  
put your  
finger on each  
phase.



Concept of a normal level of  
Economic Activity

revival that pt. of upswing which  
returns to normal

Recovery that pt. of upswing which  
exceeds the normal.

Downsawing

Lange & P4

Business return  
to normal



Depression: pt of downsawing  
below the normal

Norm doesn't  
make sense  
except as  
an empirical  
average

Business cycles beyond all  
having something in common.  
each one has considerable  
features of historical uniqueness.  
Difficulties of classification  
~~result~~, may be gotten around  
by return to the two  
phases of business cycles.

What we have to explain.

1) why there are  
periods of expansion +  
contraction. ?

2) what causes the

turning points:

① Why does expansion  
contraction

stop. Why does it turn into a contraction

Haberler's classification (Lange 1285)  
useful for analysis

upswing  
Upper turning point  
downswing  
Lower turning point

Recovery  $\equiv$  boom  
recovery is called a boom when it is accompanied by certain pronounced financial expansions.

Recovery (or Boom when accompanied by strong financial features)

---

Recession (or crisis if accompanied by great financial breakdowns.)

---

Boom + Crisis largely refer to financial features

So much about  
general features of  
business cycle.

Lange 2.16

---

Historical + geographical  
extension of business cycles.

Business cycles do not exist at  
all times + places.

Middle ages fluctuations of welfare  
etc. also fluctuations in q. of resources  
available → depressions coincided with  
wars, famines, plague ---

Historical observations of the  
business cycles + geographical  
extension coincide with  
development of Modern Industrial  
Capitalism is developed.

---

Country with oldest business  
cycles observable is in  
England, also in France  
Partly in the United States

In Germany the business cycles  
emergence can be observed.

In the 70's Germany Large S.C.P.  
becomes enmeshed in  
business cycles.

Russia, Australia, Japan,  
South Africa - not till end of

19<sup>th</sup> century business cycles

observed

Not only is it possible to  
show that business cycle  
emerges with modern  
capitalism but in countries  
where capitalism has  
not ~~development~~ developed  
business cycles exist solely  
as repercussions.

The great non-industrial  
raw material producing  
countries (agriculture) e.g.  
Argentina, Australia the business  
cycle is the result of decline in  
export foreign trade.



In Country of the U.S. | Lange 7, 18

the dep business cycle is  
generated in the industrial  
section + the agricultural  
business cycle follows as  
a result of the decline  
in the markets

---

| Business cycle generated  
| in the center of capitalist  
| industry and is spread  
| outside it

propagation of the business  
cycle into the agricultural  
↓ raw material producing  
centers

Geographical +

Lange L. P. 9

Historical extension of  
business cycles coincides  
with modern industrial  
capitalism

Suggests the idea that  
there must be some  
features of modern industrial  
capitalism which  
generates the cycle.

1. Features of modern  
industrial capitalism

# Df. of Capitalism

Characteristic features of modern capitalism

## 1. Exchange Economy.

# 1+2 are independent

as distinguished from a natural economy.  
monetary economy  
in practice

## 2. Based upon private ownership of means of production.

## 3. Diverse ownership of means of production & ownership of labor.

# 1+2 independent of 3.  
medieval guilds.

## Wage System

(plantation systems not Modern Capitalism)

restated  
Characteristic features of Modern Capitalism

Df. first given by Marx.

1. Exchange Economy
2. Private ownership of means of production
3. Wage System

Marx's df.

Lause 2, 3, 4

excludes slavery

Question of including  
slave systems

antiquity

Rome + Athens approached

Capitalism but.

slave labor existed +

was quite dominant

If slave labor is

included then we

must distinguish

between types of

capitalism

Schumpeter's df. quite  
different.

Weber + Sombart etc

Df. of Capitalism [ Production is carried on  
to maximize the  
Entrepreneur's profit  
→ money profit ]

How do the dfo's overlap. [Lange 13 P 3]

Exchange economy is automatically implied in Weber's etc's def. of capitalism.

State capitalism: Public ownership of the means of production but where each unit maximizes money profit [a strict definition of state capitalism which seems natural. O.K.]

How far does this criteria of maximization of profit imply the separation of the ownership of means of production & the ownership of labor

When producers own the tools they essentially will not act to maximize their profit

The Historical school's [Lange 2, 17]  
df. of capitalism includes the  
slave systems as capitalist  
economy.  $\therefore$  is somewhat  
broader than the Marxist df.

Wages + capital cost of slaves  
behave  $\approx$  costs to the  
entrepreneur

Marx's df. of capitalism  
as Maximizing Surplus  
Value  $\approx$  to historical  
schools maximizing  
of profit.

① Historical schools  
df. better for our  
use in pure economic  
theory for Marx's df.  
throws attention to  
social relations under  
capitalism while historical  
schools df. throws attention  
upon motivation

The desirability of Long 3 P 6  
labor in a non-capitalist  
exchange economy does  
not figure as a money  
cost while in a capitalist  
economy the desirability  
of labor enters into the  
entrepreneurs calculation  
as a money cost

---

Non maximization  
of money profit  $\cong$  to  
remnant of a  
natural economy

$\therefore$  to eliminate all  
elements of natural  
economy labor &  
instruments of production  
must be separated.

$\therefore$  ~~a~~ a capitalist economy  
can be def. as a  
throughgoing exchange  
economy. Where all

factors + products are  
calculated in terms of  
money cost

Entrepreneur however may  
not be working to maximize  
money profit

Conditions of perfect competition  
& imperfect competition  
determine whether it is  
possible for an entrepreneur  
to work for something  
~~else~~ aside from  
maximization of profit.

Danger of actual losses  
under perfect competition  
forces entrepreneurs to  
seek to maximize  
profit. Under  
imperfect competition  
the entrepreneur has  
given the alternative of  
not maximizing profit.  
e.g. maximize utility  
desutility of efforts; prestige



approximate Change 13 P8  
≅ only between our definition  
of maximizing money profit  
& Marx's def.

---

Separation of ownership of  
means of production &  
~~money~~ management;

Knight: Enterprise system  
Marxist: Financial Capitalism

Marxist  
Marxist

---

Dominant form of the  
capitalist firm is the  
corporation

---

Under Financial Capitalism,  
Enterprise System no elements  
of natural economy is left  
& Entrepreneur's disability  
is measured in money  
terms.

Burle of Means  
 conflict between  
 Entrepreneurs & owners  
 in a Enterprise System

Financial Capitalism all  
 element of natural economy  
 disappears.

Shall assume that under  
 modern wage capitalism  
 approximately firms  
 maximize money  
 profits.

Capitalism:  $\left\{ \begin{array}{l} \text{plain} \\ \text{financial} \\ \text{Enterprise Economy} \end{array} \right.$

Historical distinction between  
commercial capitalism and  
industrial capitalism  
Capitalism first began in terms  
of commerce: The industrial  
revolution & industrial capitalism  
Some historical distinction between  
financial & industrial capitalism  
(coinciding with the rise of  
the modern corporation)

Business cycle goes as  
far back as the period  
of the beginning of the  
era of industrial capitalism  
End of 18<sup>th</sup> - beginning of 19<sup>th</sup>  
century in Eng. & France.

Medieval economic [Lange & P.]  
fluctuations were always linked  
to a definite economic cause.

Modern business cycle is  
characterized by a regularity  
which makes it independent  
of non-economic causes

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Period of transition between  
Industrial Capitalism &  
national economy: that of  
commercial capitalism

---

Commercial crises during  
periods of commercial  
capitalism has in common  
with modern business cycles  
that there were periods of  
unused resources.

---

Financial crisis develops at  
the same period: Connected  
with the beginning of  
industrial & commercial capitalism

Joint Stocks | Range 1813  
Company developed prior to  
Financial capitalism but they  
were not dominant.

Institutions of later stages  
were present during  
early commercial capitalism

Ten crises much older than  
ten business cycles

Features which  
commercial crises have  
in common with  
modern business  
cycles

distinction:

① limited financial  
circulation + trade:  
were not accompanied  
by fluctuations in  
Industrial output  
and employment.

2) did not have the  
regularity of the modern  
business cycles but were  
more or less unique.

Dates of crises

First part of 17<sup>th</sup> century  
in Holland

1634-37 - tulip speculation.

combination of commercial  
+ financial crises one  
of the earliest.

1720

France: John Law

Mississippi company.

England: South Sea

Company: South Sea Bubble

Nature of difficulties which  
rising commercial  
capitalism had to meet

Ranged, P

John Law: ~~Mississippi~~ Company

Compagnie des Indes  
founded 1717.

John Law promised to pay  
off from the proceeds  
of this company the  
public debt of France.

Company issued stocks,  
advertised it, caught the  
imagination of the people.

1717: 1600 %	) Speculative Craze.
1718 - 2,000 %	
1720 - 36,000 %	

Breakdown in June of 1720  
to 500 %  
Ended at 36 % of Par.

South Sea Bubble / Large 2, P. 6

1711 - South Sea Company

Established

Similar Financial Boom  
to Panama.

Boom not only in South  
Sea Co. but also in  
other companies.

Height of Speculation in  
1720: Shares of South  
Sea Company reached only  
1100 £.

Similar Speculation.

200 companies founded in  
3 years.

in 1720 there came a  
breakdown in prices

✓ The Speculative crisis of the  
period of commercial capitalism.

Can be explained in terms of

- ① psychology of early capitalism
- ② youth of financial institutions
- ③ lack of knowledge as to how  
to control them



- ① There were absolutely no rules of management developed.
- ② Principle of sound financial management did not exist.
- ③ Management never took steps to prevent failure.

Novelty of the Capitalist Spirit:  
The maximization of money profit.

moral restraints imposed by Scholastic & Canonistic doctrines broke down & maximizing of money profit became fully respectable.

Commercial crises during this period.

1763 - so called North European Credit Crisis. Center in Holland & Northern Germany

1772 - London

Large 1, 1/2

Commercial Crisis

Connected with the  
organization of commerce  
under mercantilism

Commercial crisis of 18<sup>th</sup>

Century - were commorad in  
nature.



Ricardo: Chapter where he  
discusses employment.

Chapter XIX. on

Sudden changes in the  
Channels of trade



Commercial crises between  
the crises fluctuators due  
to destruction of resource +  
modern business cycle,

Crisis in 1810  
1815  
1818

Lange 44 Pg

all associated  
with the Napoleonic  
Wars.

Continental Blockade: 1810

1815-1818-19) England & France which  
largely are explained  
in terms of the aftermath  
of the war!

1815- Demobilization  
inflation  
→ considerable def

1818-19. a deflationary  
crisis

recurrence  
to normal  
course  
of capital

1822 A revival the  
start of the modern  
industrial cycle. This event  
for Britain must be  
brought back in England  
to 2nd half of 18th century

Langze. L. S. P.

April 9, 1912

Industrial Business

Cycles: In Fr.

& Eng. mounting evidence that 3rd  
business cycle prior to 19<sup>th</sup> century  
to middle of 18<sup>th</sup> century.

Mr. Schumpeter: R. E. Statton.

"Business Cycles in Britain in  
18<sup>th</sup> century:

19<sup>th</sup> century: degrading  
crisis of Napoleonic wars etc.

1822 to 1914 - 10 Business Cycles  
in England.

Table of dates of these Cycles.

Cycle -	Start of Business	Duration
1822-31	1825	10

Business Cycles

Langze 25 P2

Date:	Recession	Duration	Expansion	Contraction
1822-31	1825	10	4	6
1832-42	1836 (37?)	11	5	6
1843-51	1847	9	5	4
1852-61	1857	10	6	4
1862-68	1866	7	5	2
1869-1879	1873	11	5	6
1880-1887	1883 (84)	8	3	5
1888-1894	1890 (93)	7	3	4
1895-1902	1900	8	6	2
1903-1909	1907	7	5	2
1910 <u>War.</u>	1913	-	3	-

$\bar{x} = 8.8$        $\bar{E} = 4.7$        $\bar{C} = 4.1$

Post War: ① Demobilization Crisis

1922-1932	1929	11	7	4
1933 - War:	1937?	-	4?	-

I doubt as to the exact timing of these cycles: Literature on History of Business Cycles. Pioneer Writer on Business Cycles was Juglar: Fr. writer 1860: Book on Commercial Crisis

Juglar: prolong period (Kauze 25 P<sub>3</sub>)

his book on Business cycles was the classic. :

Touza - Barondachi - 1894 - On the Industrial Crisis - German Title (early) Commercial Cycles

Father of Modern Business Cycle Theory.

Contemporary literature :

1, Spietoff: Kriew: - Table that of Spietoff.

Jessie: The Periodic Crisis of Overproduction  
(Most systematic effort available)

parenthesis  
Jessie's  
dates.

Book starts with 1822.

Periodicity

Delayed by

Constant period & constant  
amplitude, & a definite

Law underlying the  $\alpha$  amplitude.

(1) not a constant duration,  
duration fluctuates between  
7 and 11 years.

(2) ~~is~~ a constancy of  
amplitude.

notwithstanding  $\exists$  a certain  
regularity which we use  
to designate the cyclical  
phase phenomena.

Variability in length of period of  
contraction & expansion  $>$  than  
that of period of cycle.

$M = 8.8$   
 $M_{exp} = 4.7$   
 $M_{cont} = 4.1$   
 $\sigma_{exp} = 1.4$   
 $M_{cont} = 1.58$   
 $\frac{\sigma_{exp}}{M_{exp}} = 2.13$   
 $\frac{\sigma_{cont}}{M_{cont}} = 3.88$   
 $M_{cont} = 3.85$

Contrasted  
 more variability  
 than in a  
 period of  
expansion

Variability in total length of cycle  
 > than in } } }

Geographic Expansion of different cycles!

Mixture of Regularity & Historical  
 Uniqueness mixed in  
Business Cycles:

Each one carries these two  
 facets.



Each Cycle is largely not unique:

Common patterns & common  
causal mechanisms  
overlayed by unique  
causes:

1822-31 - England - based on  
expansion of iron industry  
shipbuilding, canals & gasworks.

1832-42 - large scale  
unemployment in England &  
great social disturbances

Chartist movement: / England  
United States  
France;  
Belgium

1848 Depression had a bearing  
on revolutions of 1848.

1843-53; <sup>Chinese?</sup> Chinese Market &

Railroad Construction: Iron  
Steel & coal mining  
Crises in 1847:

Range 25 P

Depression +  
Recession spread to  
France & United States

1852-61 California Gold  
Rush; Australian Gold.

Large Emigration from  
Europe to N.A. + Australia  
Export trade: Railroads;

Shipbuilding & the Electrical  
Telegraph: R.R. Building in U.S.

[Crimean War: Shows  
relatively little effect upon  
the cycle.]

1857 Dep. Recession

Eng. Fr. U.S.

Ger. affected only

Slightly

1862-68: Civil War in U.S. interrupts  
its normal course & affected  
the British textile industry.

Der. of trade with Egypt, India  
& Brazil 1866. Eng. Fr. & U.S.  
U.S. not visible

with shortest period of [Longest] contracts in history

Germany is affected by the Cycle

1861-79: Eng; Fr, U.S + Germany

U.S. Expansion connected with R.R. Building Modern steel making process: Beginning of oil industry:

[Franco-Prussian war had no particularly great effect upon the cycle.]

Period when Germany fully enters Industrial Capitalism:

One of the longest & severest depressions in the 19th century: Depression in

Agriculture

1880-87 New Cycle: Very short prosperity long depression  
Same 188-94

Expansion in both (Langley's 1888)  
cycles characterized by great  
waves of railroad construction.

Migrations to U.S.

1888-94 Great Brief Prosperity &

Long depression:

Investment in So. Am.,

Africa; So. Europe

---

Next two cycles characterized  
by long & pronounced  
prosperity & short & mild  
depressions:

1895-02. New Gold So. Africa

<sup>development</sup>  
~~Dev.~~ of Electric Industry.

Dev of Chemical Industry.

Since 1895 the dev of the  
electrical industry are the  
dominant factor in the  
period of expansion

1922-29

Layer 25 P<sub>9</sub>

Automobiles; Electrical  
Industry (esp in Home  
Ref; Radio)

In U.S. this was the  
only prosperity where it  
wasn't accompanied by  
rising prices:

Recession in 1929  
was the severest since  
possibly that of 1873.

U.S. + Germany Hardest Hit.  
Britain less + still less  
France: Both Japan + the  
Soviet Union expanded  
during this period

Range: R. P.  
April 19, 1842

repeated table of previous day:

remarkable regularity not  
disturbed by minor wars & political  
event.

9 yrs  
length of  
Periods of contraction more  
variable than periods of  
expansion.

Amplitude varies: expansion  
more marked & contraction  
more marked.

1929 & 1873 the  
severest depression.

Cycle after 1933 is characterized  
by a great amount of  
government intervention

Course of last cycle is therefore  
& different from others; consensus

[Lange 20 Pz]

policy of regulating  
volume of employment.

---

The regularity which can  
be found in the relative  
length on one <sup>side.</sup> side & the  
intensity:

Longer depressions the  
more severe: longer  
booms the more pronounced

---

History of business cycles:

Is an alternation of cycles with  
prevailing expansion & cycles  
with prevailing contraction

History of 19<sup>th</sup> & 20<sup>th</sup> century  
capitalism into cycles with  
prevailing expansion &  
~~exp.~~ prevailing contraction

Range 1 to P<sub>3</sub>

Yrs	Cycles	Expansion	Contraction	Ratio	Eff. cont.
20 · 1822-42	2	9	12	.75	
30 · 1843-73	3½	21	10	2.1	
20 · 1874-94	2½	6	15	.4	
18 · 1895-1913	2½	15	4	3.75	

What <sup>what</sup> would have happened if not for the world war is rather difficult to predict.

Spietoff ~~is~~ Periods of Change.

Succession of periods of prevailing expansion & prevailing contraction

1873: literature that you cannot expect revival.

1895-1913: belief that business cycles were a thing of the past



Periods of prevailing expansion  
& prevailing contractions  
led to belief questions that  
we should discuss the  
long waves or long cycles.

Kondratieff -: Long waves of  
Economic life: Review of  
Economic Statistics 1935.

Price index #'s

Interest Rates

Wage contracts / etc + he

distinguished a wave like  
movement which partly  
does conform to these  
periods. / long cycle of 50 yrs.

Kondratieff:

1st wave:

Timing period

I cycle: 1780-70-48 44-51 ; 1810-17

II cycle 1844-51 ~~1844-51~~ 1890-96 ; 1870-75

III cycle 1890-96 ~~1890-96~~ 1914-20

Kondratieff: Spoke of long waves  
believed they have a regularity  
comparable to ~~the~~ <sup>the</sup> Business Cycle.

Kondratieff Cycle in  
Schumpeter:

Juglar Cycle: ordinary  
business cycle.

After Kondratieff Jump to P.  
it has become  
fashionable to discover all  
kinds of large cycles

Kuznets: Book on secular  
movements.

---

Question of a Business  
Cycle vs a Business Cycles

---

Problem today far from  
being solved: not sufficient  
investigation + scarcity of  
data.

---

Even the Empirical problem is  
far from being solved:  
Statistical Manipulation of Data.

Keuznets cycle

[Page 6 P<sub>1</sub>]

can be shown as determined  
by the type of trend  
to be fitted

---

Skeptical view that talk of  
long cycles is bunk + that  
it is ~~made~~ manufactured  
by ~~statistical~~ proceedence

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hange says of a similar  
phenomena discerned by  
non-statistical Historians.

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there may be a comicological  
Argument against calling it a  
cycle:

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Explanation of these long  
cycles in terms of gold-  
production

History of gold production: Failed to  
~~no~~ attempt to correlate it  
with the long cycles.

Historical accidents in  
the discovery of gold as  
the motivating force underlying  
the long cycle.

Cunell: Chapter on Business  
Cycles: Argues that the  
price level in 1850 + 1913  
could find, that the price level  
in these two years happens  
to be the same.

Quantity of output of goods  
+ services increased +  
of money must have  
increased enormously  
to keep up - track.

37% increase in  
gold ~~price~~ <sup>stock price</sup> over  
period: sometimes gold  
stock increases much  
more rapidly &

Long Cycle due to

Historical accident  
as to gold production

We were discussing the

Jange. & P.  
April 14, 1942

So called Kondratieff cycle:

Whether it is to be called a cycle or not is a matter of debate:

Evidence is scant - only 2 1/2 such cycles.

Narrow sense of Kondratieff cycle whether or not we can find a specific cause:

Camel's fluctuation explanation of Kondratieff cycle - increase output in world's gold stocks.

If this holds it is not a cycle but a fluctuation: Non-economic basis therefore of Camel's explanation.

Camel's explanation challenged.

" argument held by others

Kitchin; Wardner + Pearson:

2 types of criticism of the theory.

(1) Statistical: attacks evidence

Attacks the <sup>statistical</sup> basis upon which

Camel's case is supposed to rest.

Second criticism in Lang & P.  
terms of economic causation.

Cassel regards price level as  
dependent upon the q. of gold.

① either gold is only  
monetary medium.

② q. of money in a  
constant ratio to q. of  
gold.

Kautsky: q. of money in S. R.  
proportional to q. of gold.

denied  
by  
Cassel

Silver & Paper Money

Price level is not a  
f. of ~~price level~~  
quantity of money.

Falling prices cause  
depression - rising  
prices prevailing  
booms.



Problem of Lange  $d_7 P_3$   
causation not simple.

- other explanations:
- ① Preparation for war.  
King's outlay upon things  
in periods of great  
government demand.

Pump priming:

- ④ Weak evidence.
- ⑤ Technical progress.  
due partly to King's outlay.  
championed by Schumpeter.  
most current  
explanation of long  
run fluctuations  
associated with  
major innovations.  
did not come, were  
not distributed  
equally, but ~~is~~ came  
in great bunches.

① application of motor power to textile industry.

① Industrial revolution  
1775-1820.

first upswing in  
Kandratz.

② slackening of pace  
of tech progress  
until the transportation  
revolution: Revolution's  
Uprising of 1843-73

All upswing of  
business cycles in  
this period  
connected with  
R.R. building.

1874-94 period [Range 2, 15]  
of rest:

90's new revolutions:

Electricity: Electropower

① transportation

② Combustible engine:  
motor car.

End of 19<sup>th</sup> beginning of  
20<sup>th</sup>. the chemical  
industry.

Schumpeter labels

1<sup>st</sup> Kondratieff cycle:  
period of ~~the~~ industrial  
revolution.

2<sup>nd</sup> iron & steel.

3<sup>rd</sup> electricity & chemistry.

most current &  
general planation  
of long new  
fluctuations.

Point whether  
the long run  
causes are

Harvard, 18

due to accidental causes  
or economic cause

not a cycle; just a fluctuation  
if due to accidental causes

Economic mechanism  
may cause the delay  
of innovation & push  
them at economically  
favorable times

### Terminology.

cycle distinguished from  
fluctuation  
cycles  $\neq$  periodic.

periodic phenomena are  
which recur in equal  
intervals of time with  
either constant indefinitely  
changing amplitude of  
fluctuation.

Cyclical: recurrent fluctuations,  
without constant  
period and constant  
amplitude.

Cycle + periods explained  
by a causal mechanism.  
fluctuation change which  
cannot be explained by  
a specific causal  
mechanism.

Not as regular as a  
cycle.

Regularity of recurrence  
expected usually only  
when  $\exists$  a definite  
causal mechanism.

May happen that pure  
random causes produce  
regular fluctuations <sup>which</sup> may  
appear to be cyclical.

Slutsky: [Lange 78]

Econometrica 1929 ~ 1939

$\Sigma$  of random causes as a  
cyclical phenomena

~~Not with standing it~~

Certain regularities may be  
explained w/eg by cumulation  
of random chances.

Kuznetz: the question of  
whether the Juglar cycle  
is the <sup>only</sup> ~~only~~ cycle

Maybe there is still other  
cycles: which are separate  
& have to be added.

Mr. Kitchens: 1923 R.I. Statistics  
Study on money markets.  
Cycles & trends in Econ  
factors. Tried to show

Cycle of 40 months / Large L, P, 9

Cum + Kitchin

Prof. Mitchell: observed the same cycle: Calls the Kitchin cycle the

basic cycle:

Mitchell's conclusion somewhat similar:

Mitchell distinguished minor cycles, major cycles.

① | All short run cycles are heavily weighted with prices, stocks + commodity, interest rate.

② | Long run cycles based upon unemployment + output data: European Studies.

Large L<sub>10</sub>

Each major fluctuation  $F$   
is 2 or 3 such minor fluctuations.

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Supporting of Statistical Evidence  
for short cycle :

U. S. Empirical evidence  
for short cycles pretty good.



Lect. on Short Cycles.

1) Empirical evidence

Large 28%.

April 16, 1942

2) whether it is a cycle or merely a fluctuation.

3) empirical evidence in the United States.

These fluctuations largely have been found in the field of prices: [including interest rates].

Lack of evidence in other countries.

Some evidence in England: Shows some thing like short run fluctuations.

Short run fluctuations accumulation of random effects; causes similar to Slutsky's

Cyclical evidence | Page 2 of 2  
mechanism in terms of  
accumulation & decumulation  
of inventories.

Inventories held by firms  
become larger than a  
normal inventory  
which results in  
cutting of production.

This may account for the  
not finding of the short cycle  
in Industry. European  
industry does not work  
for inventories as compared  
with the United States where  
the keeping of inventories is  
a major part of business

Schumpeter speaks in Range 8/3  
Terms of 3 cycles

Kondratieff, Juglar +  
Kitchin cycle. → →

Will ~~the~~ discuss the  
Juglar cycle primarily  
and work on this basis  
discuss the short cycle fluctuations  
also.

1 further point: Besides the  
business cycle we find in  
our economy particular  
cycles which are strongly  
independent of the business  
cycle. Call them  
Autonomous cycles. (Corn-Hog)  
So called Hog Cycle  
Cyclical

Corn-Hog Cycle [Lange 284]

ratio of hog prices to corn prices.  
high ratios - encouragement to  
produce hogs  $\rightarrow$  increase demand  
for corn  $\rightarrow$  ratios unfavorable,  
hogs thrown on market, fall  
in ~~price~~ <sup>ratio</sup> of hog-corn ratios.  
18-24 months

Epits in beef cattle [not so  
well  
known]

Epits in orchard products,  
potatoes. -

These autonomous cycles  
exist in agriculture.

Autonomous ~~the~~ cycles in  
Ship building.

High rates - stimulates  
shipbuilding - too excess -  
supply increase - freight  
fall - becomes less profitable -  
ships wear out  $\rightarrow$  scarcity  
rates go up - new building  
profitable.

Building Cycle: Large 18 1/2

Residential building: Similar  
Causal mechanism:

High rents: new houses.

Supply increases - rent  
fall - building stops

17 to 18 yrs average  
length.

Rigglesman Data in

Year	Duration	Harmon.	Building cycles
1826?			
1830	-42	-16-17!	1-1
1843	-63	-2#	3-9
1864	-77	-14	4-16
1878-1899	-22		4-16
1900-1917	-18		0
1918-1934	-16		2-4
1934		6/108	6/46
		18 yrs	74/3

$$\sqrt{2.66} = 2.6$$

Ruggles Cht.

Page 16

	Durations	Years.
1826 - 42	17	1836
1843 - 63	21	1853
1864 - 77	14	1871
1878 - 1899	22	1890
1900 - 17	18	1909
1918 - 33	16	1925
1934		

18 yrs.

Industrial and Residential Construction / <sup>Hannor's argument</sup> that <sup>correlates</sup> J. a <sup>possibility</sup> ~~of~~ cycles between <sup>Wigley's cycle + Building</sup>

Autonomous cycle: <sup>dry cycle</sup> <sub>[other agriculture]</sub>  
 best evidence: J cycles  
 in Shipbuilding & Building  
 Relation between business cycle  
 and autonomous cycles.

| Page 18 1/2

# Social consequences of the Business cycles

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Not autonomous but which  
can be explained as consequences  
of business cycles.

Cycles in the movements of  
population:

Birth rate & coincide with  
business cycles.

Dorothy Thomas:

Social Aspects of Business  
Cycles.

Immigrations, Birth Rate,  
Death Rate (in earlier  
cycles - behaves autonomous)

1929 Business cycle had no  
adverse repercussion on  
the ~~business~~ <sup>death rate</sup> cycle.

Migrations affected.

Period of expansion period  
of great movements

Criminal Statistics # of  
transgressions against property.

Final dimension (Lange & P)

## of Empirical aspects

Start discussion of Theory of Business cycles: Theory a recent development. Older writers wrote about the crises - & violent

financial breakdowns. That is how discussion started. Later it was discovered that these crises were not independent.

Note the concept of business cycle. Study of <sup>repeating</sup> ~~repeating~~ the theoretically difficult part.