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# Clément Juglar's theory of periodic crises and the currency controversy in England and France in the Nineteenth Century

Yoshihisa, IWATA, Tokyo Keizai University

## Introduction

Clément Juglar (1819 - 1905) is usually considered as the pioneer of business cycle theory, especially due to the high appreciation by Schumpeter [1954].

Juglar regarded the commercial crisis not as the result of some errors or accidents, but as the inevitable consequence of economic prosperity. He shifted the focus from each explanation of each individual crisis into identification of the common cause of crises.

Juglar was devoted to collect and present so many statistical data that no theory would be necessary to show the existence of periodic crises. Paradoxically, when Juglar persuaded people believing in the existence of periodic crises, the economists in the next period often criticized his lack of theory.

Around 2005, the centenary of Juglar's death, however, the conference on Juglar was held in Paris, and some essays were published. It is necessary to rethink his theory of crisis, based on the recent studies.

Although he made more effort at statistical analysis than theoretical one, he incorporated the Banking school theory in the periodic crisis theory after his participation in the currency controversy in mid-1860s.

For example, the Free banking school, which was influential in academic circles in France, blamed the monopoly of bank-note issuing by Bank of France (BOF) for crises. But Juglar refuted this view by pointing out the passivity of bank from the Banking school's point of view. Thus, he reinforced the inevitability of the periodic crisis, which no banking reform could prevent.

But the conventional views on Juglar focused too narrowly on his pioneeringness in business cycle theory, and miss the influence of the currency controversy on Juglar's crisis theory.

Therefore, I will rearrange the currency controversy in England and France in the 19th century including the Free banking school, and review Juglar's theory in the controversy.

The rest of the paper is organized as follows. The first section briefly describes the formation and development of the study of crises by Juglar. The second surveys the preceding literature on Juglar. The third explains his theory on the recurring crises. The fourth section describes the framework of the currency controversy and Juglar's opinion. Finally, the last section remarks some conclusions.

## 1. The formation and development of the study of crises by Juglar.

Every time Juglar wrote a large book, he summarized the content in an article in a dictionary. He repeated such a pattern three times.

| | book | | article in dictionary. | | |
|---|---|---|---|---|---|
| First completion | *On the commercial crises.* 1 ed. | 1862 | Commercial crises | *General dictionary of the politics* | 1863 |
| development | *On the foreign exchange and the free note-issue* | 1868 | Commercial crises. revised | *General dictionary of the politics* | 1873 |
| last completion | *On the commercial crises.* 2 ed. | 1889 | Commercial crises | *New dictionary of political economy* | 1891 |

Bibliography of Juglar; see Allisson et al. [2008]

His important writings are mostly published on the Internet.

Juglar became a doctor like his father, and wrote a medical dissertation, "On the influence of heart disease on the lungs". But he was devoted to some medical statistics rather than medical practice.

After 1848 revolution, he attended to social phenomena. For his entire life, he believed in and emphasized the development of capitalism with recurring crises.

His first published economic writing is very short essay on the free trade of grain in 1851.

In 1851 and 1852, he wrote a series of essays on the demographic fluctuation "On the population in France from 1772 to our days (1849)". In these essays, he presented the long-term correlation between the population change and the alternation of economic situations.

In his economic life, he gained financial windfall from the investment in the Suez Canal recommended by Lesseps, the founder of the canal. He earned his living by managing his family property. He was a journalistic economist and assumed some important posts of academic societies.

In 1856 he published the first essay on the commercial crisis, "On the commercial crises in France from 1799 to 1855". In this essay, he analyzed the commercial crisis and the situations before, during and after the crisis by the balance sheets of BOF and so on.

In 1860, the academy, *l'Académie des Sciences Morales et Politiques,* held the competition on the research on the commercial crisis. Juglar submitted the essay and became one of the two winners. His essay was published as *"On the commercial crises and their periodic return in France, Great-Britain and United States"* in 1862. Its content included few theoretical parts and very long exemplifying parts. He summarized it in the dictionary article, 'Commercial crisis', in 1863.

After that, he participated in the currency controversy in France over the note-issue monopoly and free banking. In 1865, he published the excerption and interpretation of the English Parliament papers on money and credit in direction of BOF.

In 1865, the academy held the competition on the research on the fiduciary circulation. Juglar submitted an essay again. Although there was no winner, he was one of the three appreciated. His essay was published as "On the foreign exchange and the free note-issue". He revised the prior dictionary article, 'Commercial crisis,' based on his new currency theory. For example, the article in 1863 emphasized the overproduction beyond demand, led by price increase, but the revised article emphasized the deterioration of the foreign exchange due to domestic price increase caused by excessive speculation.

His theory developed through participating in the currency controversy. He integrated the periodic crisis theory in *"On the commercial crises"* and the currency theory in *"On the foreign exchange"*, and published *"On the commercial crises",* the second edition, in 1889. He summarized the large content of his new book into the new dictionary article, 'Commercial Crisis', in 1891.

## 2. The preceding literature on Juglar

During his lifetime, there were two short reviews of "*On the commercial crises*, 2 ed." in the journals. At his death, some obituaries were published.

After his death, most studies on business cycle focused on production and investment, and Juglar's method based on currency and credit was neglected.

### 2-a. The earlier general survey studies

The first general survey was Mangelsdorf [1930], which was an academic dissertation in German university. It reviews both of theoretical parts and exemplifying parts in 73 pages. In the theoretical parts, it described Juglar as the Banking school, in the context of English Currency Controversy (Bullion Controversy and Currency Controversy in 1840s).

Characteristically, this survey compares Juglar with Ch. Coquelin and H. D. Macleod and regards the common feature between Juglar and Macleod as the inflation by expansion of commercial credit (*Wechselinflation*).

The next general survey was Salmon [1966], which was written as complementary dissertation and has been open on Internet in 2011. Theoretically, it clarified that Juglar underlined the passivity of bank and criticized the Free banking school, Coquelin, who attributed crises to the monopoly in banking. As biography, it looked into the archive left in Juglar family.

### 2-b. The recent studies

Since around 2005, new studies on Juglar have been published. Among the most important is the series of essays by D. Besomi. He surveys the extensive archive on business cycle, including anonymous pamphlets, in the first half of 19th century, and clarifies that the concepts of cycle in Juglar's writings were widely seen in those days. So Besomi denies the pioneeringness and calls the high appreciation of Juglar 'The fabrication of a myth'. Besomi's assertion is right, but he neglects Juglar's participation in the currency controversy and the logical connection between the inevitability of crises and the currency theory in Juglar.

Another recent important study is Dangel-Hagnauer [2010]. It established that Juglar's explanation of the periodic crises changed in mid-1860s. Before that, Juglar used the logic of overproduction to reinforce the explanation of crises. But after that, he neglected the overproduction. Instead, he emphasized the deterioration of foreign exchange before commercial crises.

## 3. Juglar's theory on the recurring crises.

### 3-a. Periodizing the cycle

Juglar defines three periods in the cycle; prosperity (7-10 years), crisis (10-15 days) and liquidation (3-4 years). He emphasizes the causality, centered on crisis. That is, prosperity prepares the crisis. "The symptoms that precede the crises are the signs of the great prosperity." (Juglar [1862] p.5) Liquidation liquidates the excessive speculation which causes the crisis, and prepares the next prosperity.

His explanation proceeds along the speculation. Juglar says in detail, "easy exchange of products with the aid of credit and fiduciary circulation — price increase — slowdown of circulation of products — difficulty of sale for cash or on credit — offset of commercial bills becomes impossible because the products cannot be sold when due. — deterioration of foreign exchange — outflow of metallic specie — contraction of credit or increase of discount rate — commercial crisis — decrease of prices — reflux of precious metals — liquidation of crisis (Juglar [1868] p.Ⅵ)

### 3-b. His key phrases; "Credit is motor", "Bank is barometer".

What he means by "Credit" is the commercial credit granted by merchants each other. The parts that merchants cannot hold are brought to banks and banks grant credit to merchants. Bank credit is only passive and complementary. By considering banks passive, Juglar was able to deny the Free banking school's view that the cause of crisis was the banking monopoly and that some reforms of banking system could prevent the crises.

Juglar appreciated the crises because the economy developed more and more through them. No crisis, no economic development. No economic development, no crisis. The Crisis did not mean the end of the economic society at all. His confidence in the vitality of capitalism underpins the theory of periodic crises.

### 3-c. Bank notes and Deposits

He emphasizes not note-issue but deposit that corresponds to lending. That is, lending is granted not in bank-note issue, but in deposit creation. So he sets no store on the regulation of note-issuing. Moreover, he refuted Coquelin's theory that deposit withdrawal causes the crises. In Coquelin, deposit is supposed to be unemployed excess money deposited in banks. But Juglar thinks deposit is mainly made in lending. Deposit is held to use in business activities. So, in the crisis, the outflow of metallic money from banks results does not from the withdrawal of deposit. Juglar asserts that merchants make the bank discount their commercial bill holdings to gain the claim to bank and to withdraw metallic money. So his empirical analysis of cycle used the two articles of the balance sheets of banks; discount and metallic reserves. Before the crisis, discount increases and metallic reserve decreases.

### 3-d. Predisposition

Another feature is 'predisposition'. Juglar emphasizes the careful distinction between determinant or accidental cause and predisposing cause. Determinant or accidental cause is only a final straw. It is more important to identify the common phenomena before crisis. That is predisposition. But such a method is not his invention. Coquelin already asserted the necessity to identify the common feature of all crises rather than each explanation of each crisis[1]. But Coquelin identified the banking monopoly as the common feature. Meanwhile, Juglar regarded as the common feature the widely spontaneous excessive speculation that no banking reform could prevent. Thus, he was able to assert the inevitability of the recurring crises.

### 3-e. Spatial factor

Juglar points out that the crises occur in the countries with highly developed credit and bank

[1] e.g. Coquelin [1853] p.530.

system, not in less developed ones. In the highly developed, the prices increase illimitably in the aid of elastic credit expansion. So the high developed market, France, England and United States, experience the speculations and the crises at the same time. But in the less developed, the prices don't increase with the same speed. The gap of price increase makes the foreign exchange in the highly developed deteriorate. Merchants struggle to make banks discount the bills and to draw out metallic money from banks. Banks are forced to restrict credit and the crisis explodes.

Thus, Juglar's crisis theory is based on the difference among the areas of the world rather than on production and investment.

## 4. The framework of the currency controversy and Juglar's opinion

### 4-a. The framework of the currency controversy

Table.1 the bullion controversy in ca.1810

| | | |
|---|---|---|
| Hard Bullionist (e.g. Ricardo) | Moderate Bullionist (e.g. H. Thornton, Bullion Report of 1810) | Anti-Bullionist (e.g. directors of BOE ) |

(BOE: Bank of England)

Table.2 the currency theories in England and France from 1840s to 1860s

<table>
<tr><td colspan="2" rowspan="2"></td><td colspan="2">Right to note-issue</td></tr>
<tr><td>Central banking school</td><td>Free banking school</td></tr>
<tr><td rowspan="2">Principle to note-issue</td><td>currency principle</td><td>①Currency school(en), Issue-monopolist(fr)</td><td>③ Currency-principle free banking school (a few)</td></tr>
<tr><td>Banking principle</td><td>②Banking school</td><td>④ Banking-principle free-banking school (most of free banking school)</td></tr>
</table>

(based on Smith [1936] pp.144 - 145)

Table.3 The schema of the currency controversy in England

| | Currency school | Free banking school | Banking school |
|---|---|---|---|
| Who can over-issue? | Single country bank; country banks in concert especially likely ; BOE*1) | BOE, and only BOE | No bank |
| Trade cycle: origin | Non-monetary *2) | Monetary*3) | Non-monetary |
| Transmission | Monetary | Monetary | Non-monetary |
| When is stock of convertible money self-regulating | Only under an imposed rule (the currency principle) | Only under free competition | Already |
| Real bill doctrine | Anti | Pro | Pro |
| Needs-of-trade doctrine | Applies to country banks, not to BOE; is bad | Applies to country banks, not to BOE; is good | Applies to country banks and to BOE; is good |
| Reflux of excess notes under competition | Muddled, perverse, too slow: via external drain only | Rapid: via note exchange system | Instantaneous: via loan repayments |

*1) except early Torrens*2) except early Torrens, S. Ricardo, and Pennington
*3) R. Bell and early Parnell。 (abstract from White [1995] p.135)

### 4-a-1. Hard Bullionist vs Moderate Bullionist

Hard Bullionist argued that the only cause of the deteriorating foreign exchange and the rising gold price was over-issue by bank, based on quantity theory of money. Meanwhile, moderate bullionist recognized also the non-monetary factors except over-issue. They proposed BOE should adjust the credit policy using the foreign exchange as a benchmark, with consideration for the damage to the industry by the restrictive credit policy. They also proposed the "Lender of last resort" policy.

Juglar, in effect, agreed with moderate bullionist in terms of credit policy.

### 4-a-2. Moderate Bullionist vs Anti-bullionist and local banker

Moderate Bullionist argued that BOE could adjust the quantity of all bank notes by adjusting that of BOE notes because the country banks used BOE notes as payment reserve. Meanwhile, Anti-bullionist (the directors of BOE) and local banker (Stucky in 1810) denied the quantity adjustment mechanism by BOE note issue because of the alternativeness between BOE notes and country bank notes and because bills on London were also used as payment reserves.[2]

[2] Evidences given before the Bullion Committee of 1810.

Juglar also denied the quantity adjustment[3]. But he proposed the central bank concentrating the reserve should adjust the situation of overall credit by changing the discount rate.

### 4-a-3. Banking principle vs Currency principle

Banking principle is theoretically based on Real-Bill-Doctrine, Needs-of-Trade doctrine and Law of Reflux, and regards bank credit as the conversion of commercial credit[4]. Bank notes are equivalent to other credit instruments (bills of exchange, checks and so on). Banks cannot issue notes excessively nor raise prices. Price increases are due to demand-supply relation in real factors, not to monetary factors[5].

Meanwhile, Currency principle regards bank note as substitute of specie and proposes that the money stock in the “mixed circulation” composed of bank notes and specie should be adjusted like the circulation composed of only specie.

But the Banking-principle free-banking school presented a different scope on the two principles. J. W. Gilbart testified in the Committee on Banks of Issue, 1841, “I mean by the phrase “currency principle,” a bank which shall do nothing else but issue note for gold, and gold for notes. (Q932)” and “I mean by “banking principle,” notes that are issued in the repayment of deposits, or in the discount of bills, or in the making of loans. (Q933)”

Meanwhile, the Banking school did not such a distinction among bank notes. They equated the bank notes from discount with ones in exchange for gold[6].

By the way, Juglar stated two types of bank deposit, in the way similar to Gilbart. Juglar emphasized the shift from bank notes to deposits as the banking and payment system developed. So he distinguished between, not the two types of bank notes, but the two types of bank deposits; <u>Species current account</u> and <u>Discount deposits</u>. <u>Species current account</u> results from depositing cash or bank notes, and <u>Discount deposits</u> results from granting the credit in exchange for commercial bills. The latter is more important.[7]

### 4-a-4. Banking school vs Banking-principle free-banking school

What is free in the Free Banking? Does the Free banking mean the right to issue bank note?

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[3] But it is necessary to note that the usury law prohibited the raise of discount rate during Thornton's time, so the restrictive credit policy had no alternative but to adjust the quantity. Mésonnier [2007]

[4] e.g. Coquelin [1848] pp.102-108.

[5] e.g. Tooke [1844] p.126.

[6] e.g. Tooke [1844] ch.10.

[7] Juglar [1868b] p.143, [1868a] p.213, [1889] p.224.

Historically, before bank notes were diffused, banks had already granted bank credit by creating the liability like deposit money and by letting credit receivers use it in the form of bills of exchange on the payment center. After diffusion of bank notes, country bank notes were circulated only in the confined areas, so, for local banks and credit receivers, the credit instruments usable in the payment center, London, were important.

The privilege of BOE prohibited the other banks consist of more than six partners, not only from issuing bank notes in London, but also from accepting bills of exchange there. BOE regarded bills at sight as equivalent to bank notes and sued the other banks accepting the bills in London[8]. By using the privilege intentionally, BOE overcame other large banks and established the highest position of English hierarchic banking and payment system. Thus, in the first half of 19th century in England, the Free banking controversy is whether it was good for BOE to monopolize the final payment means in London, the payment center. [9]

Two types of Banking School.

The Banking school was based on the central banking. They proposed that the central bank should concentrate the national reserve and be given the privilege of banking monopoly for mitigation of the burden of large reserve. Meanwhile, the Banking-principle free-banking school, against the central banking, demanded the establishment of the rival banks in London. They criticized the privileged bank for excessive credit expansion in the aid of the monopolistic position and for excessive credit restriction during the crises as an inevitable consequence of excessive credit.

Retrospectively, the free banking controversy was over how the monopolistic privileged banks changes from the bank with private interest competing against other banks, into the central bank with conscious public interest[10].

Theoretically, another important difference between two schools lies in the routes of reflux of excess bank notes[11]. As the routes of reflux, the Banking school pointed out <u>deposit</u>, <u>repayment of loan</u>, <u>conversion into metallic money</u> and '<u>through the discount market</u>". Meanwhile, the Banking-principle free-banking school pointed out <u>offset of notes</u>, <u>deposit with interest</u> and <u>conversion into metallic money</u>.

<u>Deposit</u>: When bank notes are deposited in banks, banks' liquid liability only changes the form.

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[8] Gilbart's evidence before the 1841 committee.
[9] e.g. White [1995] p.65, Gilbart [1841a].
[10] For example, Bagehot [1873] required this change in BOE.
[11] Le Maux [2012], Cassidy [1998a], Bailey [1840] pp.21-22, and Gilbart's evidence before the 1841 committee, Q1361-1363.

For payment, checks are drawn on deposits, so the same quantity of money circulates with no less speed. But Banking-principle Free Banking School emphasizes deposit with interest, which tends to slow down the circulation of deposit money, differently from the deposit of BOE without interest.

Conversion into metallic money: for the both schools, conversion is rare and has little direct effect on the adjustment of bank money.

Repayment of loan: bank money is generated as lending and deleted as repayment. So repayment can reflux excess money. But lending is the source of profit of banks. Of course banks are capitals, which are self-valorizing value. Therefore, banks may struggle to increase loan by lowering interest rates or by relaxing the loan standard in the discount market. Fullarton pointed out that BOE's restraint from participating in competition for more loans and profits could guarantee the removal of excess bank money (Fullarton [1844] pp.198-199). This opinion of Fullarton can be called 'Reflux through the discount market' (Cassidy [1998a]).

Offset of notes: the Free banking school emphasized that the notes issued by a bank in the competitive system were constrained by the demand for outside money (e.g. specie) payment from other banks in the competitive banking system. But in the monopolized system with privileged BOE, BOE notes didn't reflux and caused excess note-issue and excessive speculation, because BOE notes were not asked for specie payment due to the monopolistic position in the payment center, London.

In the currency controversy in French in mid-19th century, there were three major streams; the Issue-monopoly school (equivalent to English Currency school), the Banking-principle free banking school and the Banking school. The striking debates were between the Issue-monopoly school and the Banking-principle free banking school, although, in practical, the Banking school was influential[12].

The Banking-principle free banking school demanded the right to issue bank notes freely in principle and demand the rival bank to be established against BOF in practice[13]. This school expected the rival bank would give more facility to the industry and mitigate the interest spike during the crises (e.g. M. Chevalier).

The Issue-monopoly school demanded the BOF to control the note by using the foreign exchange as a benchmark. This school didn't trust in the originally supposed mechanism of Bank Charter Act 1844. But the Act was thought useful because it automatically warned the decrease of

[12] The Currency-principle free banking school was few, but the short debates between the both principles in free banking schools were published in the journal. Juurikkala [2002]

[13] Free banking controversy became active in France when the Péreire brothers attempted to take Bank of Savoie in order to utilize its privilege of note-issue to compete with BOF.

metallic reserve and compelled the central banks to take restrictive measure.[14]

As for central banking, Juglar took the same position as the Issue-monopoly school, although, theoretically, he approved also the Banking-principle free banking school.

### 4-b. The currency controversy on free banking and Juglar

In fact, Juglar was theoretically based on the Banking school, but subjectively, he rather appreciated the *Bullion Report* repeatedly after mid-1860s. As for the freedom to issue bank notes, he made light of the demand from the Free banking school, because he regarded the role of bank notes as negligible. He thought that lending synchronizes with deposit as banking system development because lending is granted by deposit creation. Only in the area where the banking system was underdeveloped, would free note issue play an important role.

Thus, he was able to assert the inevitability of periodic crises whether the banking system was privileged or free.

#### 4-b-1. On the Bullion Report of 1810

Juglar interpreted the Bullion Report differently from the original meaning to underpin inevitability of periodic crises. That is, the *Bullion Report* advocated the credit policy by adjusting the quantity of *BOE notes.* But Juglar included in 'notes' *all credit instruments including bills of exchange etc*., other than bank notes[15]. In the case that the agents other than banks issued the excessive credit instruments and made the excessive purchasing power, the bank reform could not prevent the speculation and the crises as a result. Incidentally, one of the features of the Banking school is to regard the bank notes as equivalent to the other credit instruments.

That is to say, Juglar read the Bullion Report from the Banking school's point of view. He emphasized the passivity of banks and denied the effectiveness of bank regulations for preventing crises.

#### 4-b-2. On the freedom of emission and the central banking

As for the controversy between the Issue monopolist and the Free banking school, Juglar asserted not either-or but compatibility. Juglar's opinion is as follow; in the areas where the banking systems were underdeveloped, free note-issuing would be helpful and should be permitted, and the branches of BOF working as clearing house could offset each banks' debt and prevent

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[14] See Wolowski. The similar logic is seen in Bagehot [1857b].

[15] See Juglar [1868a] pp.328-329

excess issuing. BOF should concentrate and conserve national reserves, and grant credit to the banks lack of reserve, which BOF should compel to put reserve in it. When credit and speculation expand excessively, it should draw up the discount rate at the time of decrease of its reserve.[16]

The concept is based on the Banking school which, permitting the free note-issuing in the country, thought it possible to restrain the excessive issue by the passivity of the central banks and clearing house system.

In fact, Juglar accepted the concept of the central banking policy that had already developed in practice.

## conclusion

As Salmon and Besomi point out, the originality of Juglar is not many. But we can find a lead on the inevitability of crises from his writings.

Firstly, predisposition.

To be sure, each crisis has each particular cause. But only by inquisition into the common cause of all crises can the inevitability of crises be proved.

Secondly, the passivity of banks.

Many arguments about the crises in those days focused on the banking system and reform. But Juglar considered banks passive and that the speculation, which caused the crisis, was fostered by the wide range of economic agents other than banks. So he was able to assert no banking reforms could prevent the commercial crises.

By the way, in modern system, some economists think that financial regulations are inevitably evaded, and that financial bubbles and bursts inevitably repeat. Juglar's method is similar to such a way of thinking.

Thirdly, to study the capitalism in theory as if it was perpetual.

If the crisis led to the end of capitalism, the crisis could not be periodic. Juglar considered crises to be, not the end of the economic system, but the beginning of preparation of the next prosperity.

But of course, that the capitalism proceeds through crises and prosperity perpetually in theory, however, does not necessarily mean eternity or ahistoricality of capitalism in fact.

To be sure, Juglar did not study the historical particularity of capitalism. Rather, he attempted the common cause of the economic fluctuation in every period of history. But we could get some lessons from Juglar through the lens of the theory of capitalism.

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[16] See Juglar [1868a] pp.481-482, [1889] pp.187-188.

## Appendix

### 1. ‘Investment cycle’ and Juglar.

Conventionally, “Juglar Cycle” is attributed to the investment cycle. But his logic is mainly credit and speculation. He, however, sporadically pointed out the role of investment in cycle. He wrote, in a few parts, ‘absorption of capital’, which means that the excessive transformation of circulating capital into fixed capital results in the crises due to lack of circulating capital.[17]

But such references are only sporadic. His main thinking is sure to lie in credit and speculation cycle.

### 2. ‘Ten-year period’ and Juglar.

Juglar disagreed with fixed period on cycle from the empirical point of view. In fact, the intervals between the crises that he specified are not fixed nor ten years. The word, “periodic”, does not mean fixed interval. He emphasized that the recurrence of crises means the existence of the endogenous cause of crises, not exogenous.

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[17] e.g. Juglar [1889] p.34, 264, 265, 355. The concept, ‘absorption of capital’, was widely seen in those days. Hayek [1933].

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