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Money and credit: Lessons of the Irish bank strike of 1970

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Abstract

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1. Introduction

In Ireland, there were a number of bank strikes that led to a complete shut-down of the main part of the banking system: May–July 1966, May–November 1970 and June–September 1976. These fascinating incidents in monetary history have been surprisingly little researched. Immediately after the longest of the three strikes (the one in 1970) the Central Bank of Ireland and the Irish government undertook detailed investigations the results of which were subsequently published (Central Bank of Ireland 1971 and Fogarty 1971). A few years later, Murphy (1978) took up the issue. His article has been about the only academic publication on this topic. Only very recently, the topic has been "re-discovered". Manning, Nier and Schanz (2009) provide a short summary of this incident in their book on payments and settlements. Motivated by developments in the fields of payments and communication technologies, Birch (2014) used the bank strike to underpin the central point of his book "Identity is the new money". Norman and Zimmerman (2016) were motivated by the recent incidences of bank closures in Cyprus and in Greece to take up the issue.

Overall, there does not seem to be any dis-agreement that the effects of the 1970 strike were surprisingly limited. However, the conclusions that can be drawn from this finding differ in important ways.

Murphy (1978) concludes that it was relatively easy for the Irish economy to cope with the bank strike because the substitutability between money and credit is high. A result on which Birch (2014) draws. Basically they both argue in favour of the well-known position that money can be substituted by credit.

The Central Bank of Ireland (1971) and Fogarty (1971), however, highlight the increasing strains to which the system was put by the lack of cheque clearing and settlement. Finally, Norman and Zimmerman (2016) point out that the Irish experience cannot applied to countries in which the solvency of the banks is in doubt.

Below, a summary of the findings of the earlier reports will be given. Subsequently, the factors that served to limit the negative effects of the strike on the economy will be analysed. Finally, the factors will be discussed that would have created mounting problems if the banks had been closed much longer. It is argued that without means of settlement, economic activity will eventually be severely constrained.

2. The bank strike of 1970

Before turning to the strike it is useful to take a brief look at the Irish banking system of the year 1970. The Central Bank of Ireland (1971, 7-8) distinguishes three groups of banks:

- the Associated Banks
- the non-Associated banks
- the Post Office Savings Bank

The Associated Banks constituted the backbone of the banking system.[1] They were the main clearing banks offering a comprehensive current account service and owned an extensive branch network throughout the country (640 branches). They accounted for about 60% of bank deposits. The non-Associated banks accounted for around 20% of deposits. However, they were not full members of the cheque clearing system and they had only few branches (mainly in Dublin). The Post Office Savings Bank had a lot of branches (post offices) but did not offer full current account services.[2]

The Associated Banks were the ones that were closed down by the strike.[3] The others continued their services. However, as the brief description above makes clear, they were in no position to fill the gap produced by the closure of the Associated Banks. To a limited extent, however, market participants, could use the services of the other two banking sectors as a substitute.

The strike itself lasted from 1 May 1970 to mid-October 1970. But before the strike there were already two months with reduced working hours and after the end of the strike banks opened for the first time on November 17. Subsequently, it took them until February 1971 to process the backlog of cheques and resume normal working hours. Thus, all in all, the banks were either closed or were offering reduced services for almost an entire year (Central Bank of Ireland 1971, 5).

Although, the Associated Banks remained completely or partially closed for almost an entire year "the Irish economy did not implode" (Norman and Zimmerman 2016). Real per capita GDP growth seems to have been subdued by the bank strike (see Figure 1) but there were other strikes as well, most notably a cement strike that adversely affected the construction industry (Central Bank of Ireland 1971, 13).

Murphy (1978, 46) confirms this result. He analyses the impact of the strike on retail sales. Using de-trended monthly data, he finds significantly negative effects in only 2 out of 7 months.[4]

So, the bank strike was not a national disaster. On this point about everyone agrees. For instance, the Central Bank of Ireland (1971, 47) states:

"*What emerges from the study is that the Irish economy continued to function for a reasonably long period of time with its main clearing banks closed for business.*"

[1] The Associated Banks include the Allied Irish Banks Group (Munster und Leinster, Provincial, and Royal), the Bank of Ireland Group (Bank of Ireland, Hibernian, and National), the Ulster Bank, and the Northern Bank (Fogarty 1971, 17).

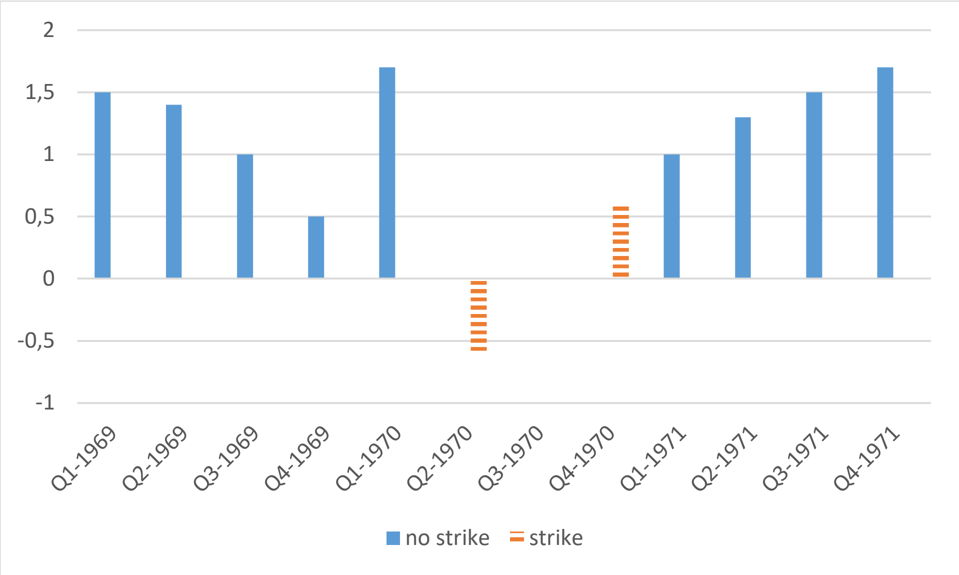
[2] The account offered seems to have been a kind of savings account: „deposit account facilities rather than current accounts or money transfer services" (Central Bank of Ireland 1971, 7).

[3] The labour dispute that led to the closure of the Associated Banks is analysed in detail by Fogarty (1971).

[4] Significance in the statistical sense. Murphy (1978, 46) de-trended the values for the years 1961 to 1976 and calculated monthly averages (excluding the strike years 1966, 1970 and 1976). These averages are used as expected values. For the seven strike months of the year 1970 he gets six negative deviations but only two of these are statistically significant.

Even foreign trade was less reduced than one should have expected. For instance, less than 10 per cent of manufacturing firms participating in the survey had to import less due to payment problems caused by the bank strike (Central Bank of Ireland 1971, 9-10).

Figure 1 Quarterly growth of real GDP per capita



Growth rate compared to previous quarter, seasonally adjusted
Source: OECD, Quarterly National Accounts, Gross domestic product - expenditure approach

Similarly, Fogarty (1971, 35) who wrote a report on the bank strike at the request of the Minister of Labour, summarised the effects of the bank strike as follows:

"*The Confederation of Irish Industry did not hear of any cases where firms had actually to stop production as a result of the bank dispute while the dispute was still running its course. Traders, farmers, and individual households found a variety of ways of keeping their cash flow going*."

Not everything was well during the strike. There were some problems in capital markets and carrying out payments required more resources (see section 6 below). But the overall picture that emerges is that of an economy which continues to function relatively well, in spite of the bank closures.

3. The Irish economy during the strike: Why it went so well

When analysing the economic effects of the closure of the entire banking system of a country it has to be taken into account that a number of factors were at work in the Ireland of the 1970s that helped to keep negative effects in check:

- Not all banks were closed.
- The closure of the Associated Banks did not come as a surprise.
- To some extent, market participants could rely on banks in Northern Ireland.

- There were many transactions between counterparties that knew each other.
- Cheques were widely used.
- Cash was widely used.
- Foreign cash (UK Pounds) was widely accepted.

All of these factors jointly helped households and firms to proceed in their daily businesses almost as before the strike.

In the case of Ireland, the Associated Banks were closed and the clearing system ceased to function. But the non-Associated Banks and the Postal Office Savings Bank remained open. Moreover, some businesses were able to bank in Northern Ireland or Great Britain. Thus, companies of all sectors were able to obtain cash from these banks (Central Bank of Ireland 1971, 9, 12, 15). When it came to paying for imports, companies with exports earning would keep some of their earnings with banks abroad in order to pay for imports. Others were depositing cash with banks that were not closed and used cheques written against these deposits to pay foreign suppliers (Central Bank of Ireland 1971, 10, 15).

So, while the closure of the Associated Banks implied that deposits were locked in the closed banks, customers still had the option to get payment services somewhere else. This was particularly important for businesses. As the Central Bank of Ireland (1971, 11) notes:

"*About 40 per cent of those interviewed had opened accounts in various institutions during or before the closure …*"

But for small businesses and households this may have been less of an option because the non-Associated Banks had only a very limited branch network. Moreover, for most small businesses and households banks in Northern Ireland or England and Wales were too far away.

In total, there was a large shift of resources from Associated Banks to non-Associated Banks and the Post Office Savings Bank. From mid-April to mid-November, deposits of the non-Associated Banks increased by 70 per cent (£ 100 million). Deposits of the Post Office Savings Bank increased by £ 43 million and deposits placed with building societies rose by £ 16 million. After the end of the strike a substantial share of this shift was reversed (Central Bank of Ireland 1971, 28).[5] Thus it can be concluded that the banks that remained open could provide a substitute, albeit a limited one, for the customers of the Associated Banks. Had really all banks been closed, it would have been more difficult to keep the economy going.

Another important element that helped sustain economic activity was trust between contracting parties. In many cases, transactors knew each other. Thus, there was a wide-spread readiness to accept cheques from other parties – even though it was clear that settlement would be postponed for quite some time.

[5] In fact, the Central Bank of Ireland (1971, 29) raises the interesting question why there was not a larger shift into the banks that stayed open. One important factor was the unwillingness of open banks to accept cheques drawn on the Associated Banks. Thus, once the Associated Banks had closed, it was no longer possible to move funds to other banks. Had the other banks been prepared to accept such cheques, and shoulder the risk, they might have won substantially more business from the Associated Banks.

"*The number of firms [retailers] who expressed concern at the prospect of a large volume of unpaid cheques was small, despite the fact that a very large number of cheques was accepted by them. This was probably attributable to the degree of personal contact between traders and their customers at the 'local shop' level* …" (Central Bank of Ireland 1971, 18)

In essence, contracting parties were ready to provide credit of unknown maturity to each other. Basically, the Irish economy reverted to the good old practise of chalking up purchases. On top, some counterparties were even willing to provide cash against cheques.

The general mood is nicely captured by two wonderful quotes cited in Newman and Zimmerman (2016):

One Pub owner was "…*holding cheques for thousands of pounds, but I'm not worried. The last bank strike went on for 12 weeks and I didn't have a single 'bouncer'. … I deal only with my regulars … I refuse strangers. I suppose I've been able to keep a few local factories going*."

"…*at Dunnes, one of Ireland's biggest chain stores…up three flights of steps to the Accounts Dept. ventures a steady stream of people hoping to cash cheques. They range from a school teacher timidly producing his monthly salary cheque for £45 to the cashier of a manufacturing firm presenting a cheque for hundreds of pounds to change into cash for wage packets. 'They are mostly strangers to us, and we just have to play it by ear in deciding whether to accept a cheque', said an official.*"

Equally, the wide-spread use of paper-based payments such as cash and cheques proved beneficial during the bank closures. Many salaries were paid in cash and the rest was usually paid by cheque. The cheque played a pivotal role. It was an instrument with which almost everyone was familiar and which facilitated the granting of credit between non-banks. As discussed above, transactors often knew each other and were therefore prepared to grant credit. But the instrument they used was not a hand-written IOU; they used the cheques of the Associated Banks.

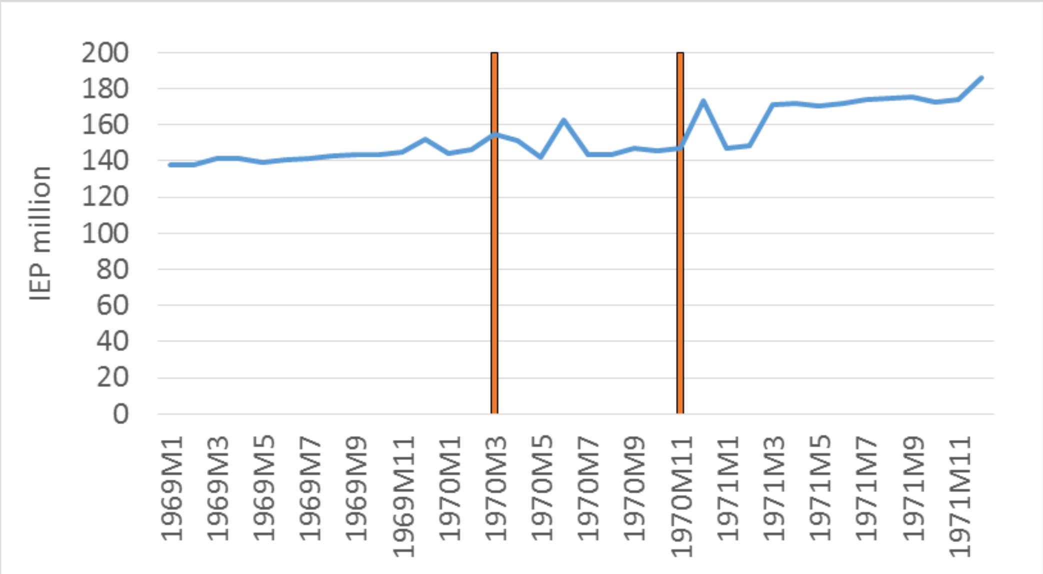
While cheques were widely accepted, they did not circulate like bank notes. That implies that those workers who were paid by cheque could usually not pass on their pay cheques. They had to keep most of them until the banks opened and clearing and settlement were resumed. Consequently, to pay for their daily purchases they had to write their own personal cheques (Central Bank of Ireland 1971, 17).

Next to cheques, cash was the other important paper-based payment instrument that kept payments flowing. Cash was widely used. For instance, 90% of manufacturers and construction companies participating in the survey of the Central Bank of Ireland stated that they normally paid most wages and salaries in cash (Central Bank of Ireland 1971, 9, 12). Before the strike, about half of the households surveyed received their income in cash. During the strike, this proportion rose to about 60 per cent (Central Bank of Ireland 1971, 19).

If the banking system is shut down the value of currency in circulation is almost fixed. Non-banks cannot get additional amounts of cash and they cannot deposit excess amounts with the banks. In the case of Ireland, not the entire banking system was closed, however.

Therefore, to some extent, additional currency could flow from the banks that were open into the non-bank sector and customers of these banks were also able to deposit cash.

Figure 2 Currency in circulation[6]



Source: IMF, IFS, Historical country tables

To start with, non-banks went into the strike period with relatively high cash balances. In the weeks preceding the bank closure, there were large currency withdrawals pushing currency in circulation above December levels (Central Bank of Ireland 1971, 37). During the strike, non-Associated banks were able to provide customers with cash. Moreover, the government used currency obtained from the Central Bank of Ireland to pay wages, salaries and pensions in cash. Some government payments to non-banks were also made with the help of the Postal Office Savings Bank. All in all, from mid-February to the end of July 1971, cash in circulation increased by £ 18 million (more than 12 per cent). However, for the strike period as a whole, Irish currency in circulation was rather low, jumping up only in December when the Associated Banks were partially open again. Thus, for most of the strike period the amount of Irish currency in circulation was somewhat subdued.

However, increased circulation of UK pounds may have made up for some of the lack of Irish pounds. The Irish Pound had a fixed exchange rate of 1:1 to the UK Pound and UK Pounds were widely accepted within Ireland.[7] Foreign tourists a well as Irish exporters augmented the stock of cash in circulation. According to Manning, Nier and Schanz (2009, 39-40), during the bank closures, the circulation of UK Pounds increased from £ 5 million to about £ 40 million (equal to 25% of Irish currency in circulation).

So, cash helped to cope with the bank closure and it was used more widely during the strike. Since the bank closure did not come as a surprise, households and firms were able to prepare themselves, to some extent. In fact, the rising amount of cash withdrawals may have been one of the factors that prompted banks to close their doors.

[6] Most of the data for the strike period had to be estimated by staff of the Central Bank of Ireland.
[7] On the history of the Irish Pound, see Kelly (2003).

"*Because the possibility of closure was obvious to the public, and was underlined by the blocking of the clearing system, there was already a run on the banks in the last days before the doors were shut;"* (Fogarty 1971, 50)

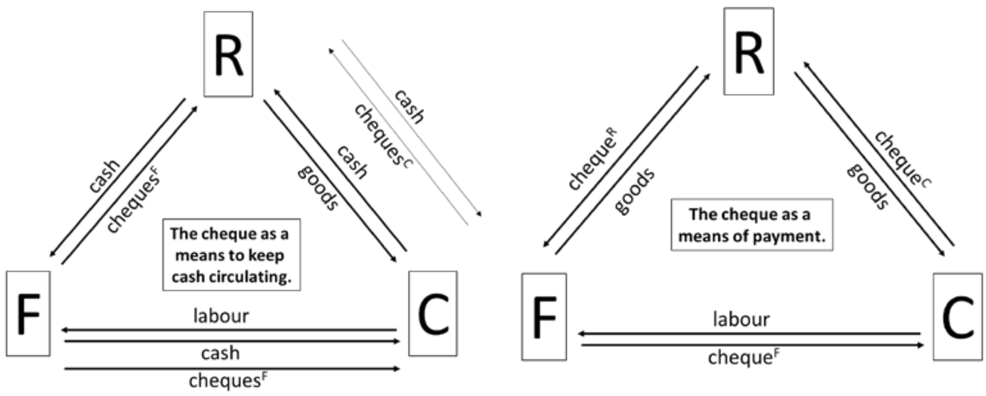
The wide-spread use of cash certainly helped to sustain economic activity close to pre-strike levels. However, cash did not flow as smoothly as it did when banks were open. For many sectors with large cash disbursements, it was difficult to find enough cash.

"*The problem most widely reported by firms engaged in manufacturing was that of finding sufficient cash to pay wages and salaries*." (Central Bank of Ireland 1971, 9)

The same seems to have been true for building and construction companies and for the service sector (Central Bank of Ireland 1971, 12, 21). In addition, about 25 per cent of workers were paid by cheque. (Central Bank of Ireland 1971, 19). These households also had to obtain cash somewhere.

For many of those entities that did not have enough cash income to cover their cash expenditures, it was indispensable to find cash. During the strike, entities with cash surpluses, in particular retailers, were prepared to provide cash to households and firms – against cheques written against accounts with Associated Banks. This practice allowed firms with little or no cash receipts to continue paying their employees in cash. Equally, households with incomes paid by cheque were relying on retailers to provide cash against cheques (Central Bank of Ireland 1971, 17). In this way, cash could circulate.

Figure 3 The two uses of cheques during the strike



R: retailers (incl. utilities and service providers), F: firms, C: consumers, cheques^{R,F,C}: superscript refers to the drawer of a cheque

So, without cheques and non-bank credit, the circulation of cash might have been quite restricted. The reason is simple: only a fraction of the cash in circulation flows "full circle".

- Households spend much of their income on retail goods (and in those days probably also on goods and services that are nowadays paid cashless, like rent, gas, electricity etc.) – but not all of their income. When the banks are closed "saving" necessarily takes the form of "hoarding".

- At the request of their suppliers, retailers will be happy to pay for their purchases in cash. But not all firms are suppliers of retailers and not all firms want to be paid in cash. Therefore, many firms have non-cash receipts.
- For some firms, or households, cash receipts are occurring later than cash expenditures.

Without non-bank credit, cash would pile up in the hands of households with a positive savings rate and in firms with relatively high cash receipts, such as retailers. During the strike, cash and cheques functioned as substitutes <u>and</u> as complements. They both served as means of payment for goods and services and cheques also served as a means of "cash credit", facilitating the flow of cash from entities with cash surpluses to entities with cash deficits (see Figure 3). As such, these two instruments were important in keeping economic activity close to pre-strike levels.

Obviously, with the bank closed, regular payments by standing order were no longer carried out. This payment instrument was used for the payment of life insurance premiums and repayment of house loans or instalment credit (Central Bank of Ireland 1970, 41). Technically, in these cases, customers failed to make contractually agreed payments. But creditors were usually not taking any actions.[8] They simply waited until clearing and settlement was resumed. For debtors this implied that they had to accumulate sufficient funds in order to be able to make the relatively high payments that would be due at the end of the dispute. So, also in the case of recurring payments it was the willingness of the payees to grant credit that helped to maintain the normal level of transactions.

On the whole, many factors were at work that kept payments flowing. The most important one was mutual trust between the transacting parties. Trust made it possible to use cheques as a means of (deferred) payment and means to obtain cash credit. Households and firms tried to carry on "business as usual" as much as possible. In a way they acted as if the banks were open. As will be discussed in the next section, they even drew on increasing amounts of bank credit.

4. Rising bank credit when the banks are closed

During the strike, the banks were closed. But they were expected to open in the not-so-distant future. Furthermore, the cause of the closure was not that the banks were in trouble. In this respect, the situation in Ireland differs from a banking crisis in which banks may be closed because there is a general fear that the banks are insolvent (Norman, Zimmerman 2016).

In Ireland, banks were expected to continue business as usual once the strike was terminated. As a consequence, in the Irish case, when writing a cheque, economic agents did not only take into consideration the size of their deposits or the value of cheques received. They also considered the possibility that banks would provide an ex post overdraft. Somebody with zero deposits who accepts a cheque over £500 and writes a cheque over £900 was in fact consciously using an implicit overdraft of £400. Equally, those accepting a

[8] For instance, insurance companies continued to provide cover (Central Bank of Ireland 1970, 24).

cheque where not only considering the current financial position of the cheque writer but also the likelihood that the writer of the cheque would be able to draw on bank credit. Thus, the fact that the bank might provide credit in case of a deficit was a reassuring factor that increased the willingness to accept cheques.

Accordingly, somebody accepting a cheque could be seen as a creditor to the writer of the cheque. But in many cases it would be equally plausible to speak of “implicit bank credit” because both sides were speculating on the willingness of the bank of the cheque writer to cover emerging deficits.

Central Bank of Ireland figures show that such implicit bank credit was widely used. Many market participants were net debtors. They were relying on the banks to provide the required amount of credit, once they were functioning again. The ratio of the value of cheques received and cheques written varied substantially across sectors (see Table 1). There also were many market participants that did not keep track of this ratio.

Table 1 Proportion of survey participants who accumulated cheques ("funds") of at least 75% of the value of cheques written

Manufacturing	90%
Building and construction	50%
Agriculture	50%
Wholesale trade*	90%
Groceries	less than 50%
Other retailers	80%
Households	40%

*: with almost 100% cover. Source: Central Bank of Ireland (1971, 11, 13, 14, 16, 18, 21)

During the strike, credit creation continued. But the banks lost control of the process. In fact, the Central Bank of Ireland (1971, 53) estimates that in the period in which the Associated Banks were either completely closed or offering only restricted services (from February 1970 to April 1971) Associated Bank lending to the private sector rose from £ 455.6 million to £ 550.1 million, an increase of 20.7%.[9]

Thus, those who had written cheques and those who accepted these cheques had been relying to a considerable extent on implicit bank credit. After the strike, they had to decide ex post which cheques to honour.

“… domestic activity was accommodated during the dispute largely by the extension of trade credit. Such credit had the effect of transferring physical resources between members of the community. (Central Bank of Ireland 1971, 51)

Obviously, such a procedure is problematic. And the potential damage rises with the length of the period in which banks are closed (see Central Bank of Ireland 1971, 51).

As it were, the Associated Banks were disposed to sanction their customers’ actions during the closure to a wide extent. After all, they had little choice because “*a refusal by the*

[9] At the same time, deposits in deposit accounts and current accounts rose by £63 million and £57 million respectively (Central Bank of Ireland 1971, 30).

Associated Banks to sanction a large part of the bank credit that had been pre-empted during the dispute would have disrupted economic activity." (Central Bank of Ireland 1971, 51)

But the decision of the banks to sanction "pre-empted credit" came at a cost. Due to the sanctioning of overdrafts credit risk rose for the Associated Banks. This size of write-offs after the end of the strike is not known but the Central Bank of Ireland (1971, 32) points out that the Associated Banks' profits in 1970 were lower than in 1969.

So when interpreting the performance of the Irish economy during the strike it also has to be taken into account that money was not replaced by "pure" trade credit. Rather, cheques where treated as something in-between an IOU and an immediate excess to deposits in a current account. To some extent, non-banks behaved as if the banks were open.

5. Credit as an almost perfect substitute for money

Some observers have drawn far-reaching conclusions from the Irish experience during the bank strike. Murphy (1978, 49-50) describes the problems that emerged as of minor importance and expresses the conviction that households and businesses could have carried on for a long time with the banks closed.

"The direct use of means-of-payment money (bank deposits) was removed from the transaction process. In the absence of this money, exchange activity remained relatively unaffected because the public was prepared to use undated trade credits as the instrument of exchange."

He even diagnoses some kind of learning that helped market participants to improve their capabilities to carry on without banking services:

"A similar learning process seems to have been at work in each case with the initial desire on the part of the buyers to maintain liquidity, allied with the reluctance on the part of the sellers to extend credit, giving way to the development of a huge multilateral system of credits and debits which permitted the smooth functioning of exchange activity as the closures lengthened." (Murphy 1978, 47).

Based on Murphy's analysis, Birch (2014, 67-68) comments:

"In 'local' transactions, business can work perfectly well with no currency and no banks. A generation ago Ireland's economy was built up from such local transactions, so people were able to self-organize their own money supply."

The Irish experience of the bank closures seems to imply that deposits (bank money) can be easily replaced by non-bank credit. This is the lesson Murphy (1978) draws from the available documents analysing the effects of the bank strike.

Citing Shackle (1971), Murphy (1978, 48-49) uses a distinction between "money as a means of payment" and "money as a means of exchange":

"*Money, as a means of payment, …, is defined as that which finalises a transaction either immediately (currency) or within the period required to clear a cheque (bank deposits).*"

“*Money, as a medium of exchange does not finalise immediately the transaction process. It leaves the transactor and/or the accepting agency with some liability or contingent liability. Exchange takes place but payment is deferred*.”

This is not the place to quarrel over words. Given the definitions, it would seem more appropriate to distinguish between money and (trade-) credit. More important is what Murphy has to say about the relationship between the two and how this had changed during the bank closures.

“*Due to improved information transactors may be more prepared to exchange goods and services on a deferred payments basis. In other words, exchange may take place without the means of simultaneous payment.*” (Murphy 1978, 49)

However, Murphy does not provide any clues as to why information should have been improved. In fact, it had vastly deteriorated. Credit rather than money was increasingly used simply due to the lack of money. The banks had closed and suddenly there was no access to bank deposits, the most important part of the money supply (money as a means of payments). But those households and firms (in particular retailers) that provided credit (money as a means of exchange) were generally not better informed than the banks. Unlike a bank that will usually have a fairly good overview, for each customer, of the payments coming in and going out, a retailer or any other non-bank will only see very little of the payment flows of their customers. Moreover, debtors often were also substantial lenders with credits of uncertain quality (see section 6). Finally, for many creditors, diversification must have been fairly limited. Thus, there was less information and more risk.

As will be discussed below, the mixture of less information and mounting risks would have led to serious harm for the Irish economy, had the bank closure lasted much longer.

6. Business as usual during the strike: Why it would not have lasted

Given the detailed account of the strike period provided by the Central Bank of Ireland, it can be concluded that the economy performed reasonably well. However, the closure of the banks put the economy under stress. While it was possible, for quite some time, to continue production and consumption activities almost as before, this required more resources (incl. time). Moreover, capital markets were harder hit than other parts of the economy. Finally, the non-bank sector encountered a rise in credit risk that would have triggered painful adjustments had the strike continued much longer.

- **Frictions in capital markets**

Financial markets found it particularly difficult to deal with the closure of banks. Not only payments were a problem. In addition, there was the problem that many titles of ownership were lodged in Associated Banks and were thus unavailable.

“*There was a substantial decline in activity on the capital market. Stock brokers found that business fell considerably, especially during the initial stages of the closure. Most subsequent business was transacted on a ‘deferred payment’ basis: cheques on the Associated Banks were issued and accepted by brokers in the normal way, but documents of title were not* *delivered until the vendors obtained value, that is, until the cheques were cleared."* (Central Bank of Ireland 1971, 24-25).

This statement of the Central Bank of Ireland seems to suggest that after an initial period with reduced activity capital markets found a solution. Unfortunately, the Central Bank of Ireland does not provide further details. Thus, it would be interesting to know whether a title purchased on "deferred payment" basis could also be sold again. Fogarty (1971, 36) reports that there was a substantial drop of non-Government transactions at the Dublin Stock Exchange "probably to the order of one third".

During the bank closures the government was also incapable to pay interest on its bonds and redeem loans that were due. This was particularly burdensome for pensioners relying on interest income (Fogarty 1971, 36).

For the real estate sector, the evidence is mixed. The Central Bank of Ireland (1971, 19) reports that "there were some problems in the area of buying or selling dwellings, cars, and other consumer durables, but these were not widespread". Fogarty (1971, 36), however, diagnosed much more severe problems: "Property deals of all kinds were blocked not only by the difficulty of transferring funds but because many documents were kept for security in the banks and could not be got out".

The survey provides some evidence that investments into fixed capital were negatively affected (Central Bank of Ireland 1971, 11, 13). In manufacturing, less than 20 per cent of the companies surveyed were "obliged to cut back or postpone capital projects" (Central Bank of Ireland 1971, 11). Financing investment was a problem mainly for smaller companies with less than 100 employees. In construction, "a number of the larger respondents reported that capital projects had been curtailed as a result of the bank dispute" (Central Bank of Ireland 1971, 13). In the retail sector, as well, some 20 per cent were "obliged to cancel or postpone investment projects as a result of difficulties that arose during the closure" (Central Bank of Ireland 1971, 18).

- **Payment frictions**

With the banks closed, carrying out payments become more difficult and required more resources. The Central Bank of Ireland (1971, 9-11, 16, 21) mentions the following problems for companies:

- "finding sufficient cash to pay wages and salaries"
- "a security problem of holding large volumes of cheques and cash on firms' premises"
- lack of documents lodged in banks
- lack of bank services such as drawing letters of credit
- for retailers and services in general: securing sufficient amounts of coins

As a consequence, staff had to be allocated to carry out tasks that would normally have been taken over by banks. Often this meant that staff had to work overtime. Sometimes it was even necessary to employ additional staff.

Fogarty (1971, 39) notes the "widespread strain, cost, inconvenience to users of bank services" and others.

- **Rising risks**

As long as the banks remained closed, there was no clearing and settlement. Without clearing and settlement, carrying on with "business as usual" implied rising mountains of bi-lateral debt between non-banks. This was probably the most important problem the Irish economy was facing as the strike went on.

In fact, households and companies could hardly avoid accumulating rising amounts of cheques. Since cheques usually could not be passed on to third parties they were <u>not</u> circulating. That meant that those workers who were paid by cheque could usually not pass on their pay cheques. They had to keep them until the banks opened and clearing and settlement were resumed. Consequently, to pay for their daily purchases they had to write their own personal cheques (Central Bank of Ireland 1971, 17). Retailers who accepted cheques as payments for goods could not use these cheques received from their customers to make payments to wholesalers. As a consequence, households (who were paid by cheque) accumulated cheques of employers, retailers accumulated cheques of households (and firms), wholesalers accumulated cheques of retailers, manufacturers accumulated cheques of wholesalers, foreign suppliers accumulated cheques of Irish clients, and so on.

"Consequently, the bulk of cheques drawn on Associated Banks during the dispute were held either by the original payees or, more rarely, by individuals and firms with whom they were subsequently negotiated." (Central Bank of Ireland 1971, 29)

Thus, all of those active in the economy who could not rely on cash income to make payments were accumulating cheques they had received ("credits") and at the same time the value of cheques they had written ("debits") was increasing more or less in parallel. Throughout the economy, balance sheets of non-banks were getting longer and longer. Almost everybody became a banker.

In a situation without clearing and settlement, such a process will continue without end. No matter whether individual entities actually want to increase debits and credits, as long as they wish to go on buying and selling, they have to accept the ballooning of their balance sheets.[10]

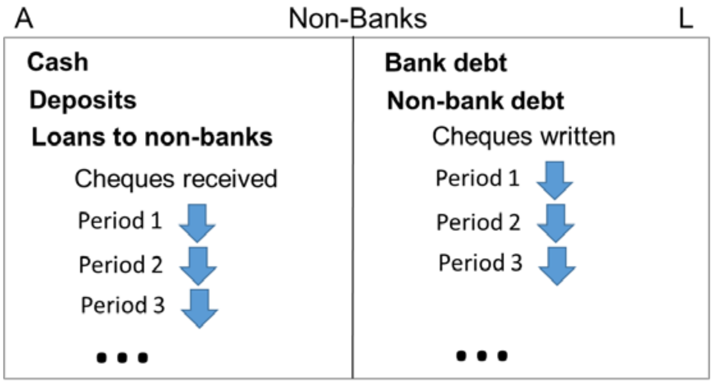
However, the longer such a situation lasts and the more cheques have been accumulated the larger the risk that not all cheques will be honoured. Consequently, the strike exposed many households and firms to rising credit risks.

In a situation with mounting credit risks, market participants will be less and less inclined to grant further credit. Once such a point has been reached, the economy will be hit much harder than in the initial phase of the strike. Apparently, towards the end of the strike,

[10] This does not mean that under all conceivable circumstances such an accumulation of cheques has to take place. It is easy to assume some ideal conditions under which cash would circulate full circle (with no cheques required or cheques settled each period). So, that there would be no need to accept an ever rising amount of cheques. However, in practise, such ideal condition will hardly prevail.

Ireland was approaching this situation. In particular, the retailers who not only accepted Associated Bank cheques as payment for goods but who also played an important role in providing substitute banking services (cashing cheques, granting credit) felt increasingly uneasy with respect to their mounting credits and debits.

Figure 4 Expanding balance sheets of non-banks during the strike



"*While retailers continued throughout the dispute to accept cheques drawn on closed banks, the indications are that, like other sectors, a substantial proportion of them would not have done so had they known that the closure would last for some six months. Moreover, it appears that a relatively high proportion of retailers – some 60% of those surveyed – either were uncertain to the extent to which they would have continued to accept Associated Bank cheques, had the banks remained closed for a substantially longer period, or would have been prepared to do so only for a limited period."* (Central Bank of Ireland 1971, 17).

In foreign trade, things were getting more complicated towards the end of the strike. Manufacturers relying on foreign inputs found it increasingly difficult to obtain trade credit from their foreign suppliers (Central Bank of Ireland 1971, 10).

Potential future problems were also foreshadowed by growing insecurity. For all sectors there also was a significant share of market participants that found it difficult to assess their true financial positions (Central Bank of Ireland 1971, 10, 12, 14). There was the practical dimension: comprehensive bank statements were missing.[11] On top, there was the more serious problem that determining the quality of a cheque became increasingly difficult. In "normal" times, a creditor has to assess the ability of the debtor to create income and the willingness to pay. But as each player's balance sheet looked more and more like a bank's balance sheet, a potential creditor also has to evaluate the quality of the potential debtor as a banker. For instance, the employee of a plumbing business may be convinced that the business is sound and his employer honest. But over time, the plumbing business is accumulating cheques of customers. So, the financial position of the plumber depends increasingly in his/her ability to evaluate the creditworthiness of his/her customers. But that implies that the quality of the pay cheques received by employees increasingly depends on

[11] This banking service seems to be what Fama (1980) has in mind when he speaks about the "accounting system of exchange" supplied by the banking system.

the quality of the plumber as a banker. As long as the strike continued, this aspect became increasingly important.

There was also another type of risk that transactors had to consider, clearing risk. Since it was expected that banks were to open sometime in the future, each transactor had to make sure that at the moment of clearing she/he would have sufficient funds in order to meet the obligation created by the value of cheques written during the strike.

For each transactor, an increasing part of assets consisted of cheques received from other parties. Once the banks opened and clearing & settlement would be resumed some cheques might "bounce" and there might not be sufficient funds to meet all obligations stemming from cheques written. In order to contain such "clearing risk", at the moment the banks opened, liquid assets, i.e. deposits and "good" cheques received should be higher or equal in value to liquid liabilities, i.e. cheques written. Therefore, with a rising amount of cheques received, it became more and more important for each transactor to provide for a buffer. Such a buffer could consist of deposits in a bank account – frozen during the strike but available once the banks opened again. For transactors without sufficient funds on bank accounts a buffer might consist of a positive balance between cheques received (*R*) and cheques written (*W*). In the case of a positive balance, cheques written and received might be cleared without a problem even if some cheques that had been received should bounce. Thus, there would be no clearing problems if

(1) $$(1-f)R_i^T + D_0 + C_i^T \geq W_i^T$$

with i=1…n: the transactors in the economy and R^T(W^T): value of cheques received (written) from the beginning of the strike to the end of the strike, f is the failure rate, D_0: deposits at the beginning of the strike, C^T: value of cash balances

Re-arranging yields:

(2) $$(1-f)\frac{R_i^T}{W_i^T} + \frac{D_0}{W_i^T} + \frac{C_i^T}{W_i^T} \geq 1$$

For a rising length of the strike (rise of *T*) *W* rises whereas *D* remains constant. Thus,

(3) $$\frac{D_0}{W_i^T} \to 0$$

Therefore, as the strike continued transactors had an incentive to seek to achieve a positive balance between cheques received (plus cash balances) and cheques written[12]

(4) $$R_i^T + C_i^T \geq \frac{1}{(1-f)} W_i^T$$

To summarise, transactors were facing two types of risk: credit risk and clearing risk. Both types were increasing for most transactors. In order to contain the growth of these risks a prudent transactor would

1. try to contain the growth of the stock of cheques received (R^T) and

[12] Some transactors might also add expected overdrafts to the left-hand side of equation (4).

2. try to contain the value of cheques written relative to the value of cheques received (W^T/R^T).

In order to achieve (1), transactors either have to sell less (goods, services, assets) or try to be paid in cash rather than by cheque.

In order to achieve (2), transactors either have to sell more, buy less (goods, services, assets) or pay by cash rather than by cheque.

Assuming that it would be difficult to sell more in an environment in which prudent transactors will strive to limit the value of cheques written, there are basically two means to achieve a reduction of both risks:

- reduce the value of transactions (buying transactions more than selling transactions)
- use more cash

These two measures are substitutes. In particular, the more transactors would be able to switch to cash the easier it would be to maintain a level of transactions close to pre-crisis levels.

However, simply replacing cheque transactions with cash transactions would not have been possible. As discussed above, cash was not flowing "full circle". In particular, the cash payment flow did not go beyond the retail sector. From retailers' tills it was moved to other entities via credit transactions (cash against cheques). Should retailers, as well, become more cautious in their cheque acceptance policies cash would circulate even less. Thus, a decline in the use of cheques could not simply have been balanced by more intensive cash use.

This is even true in the case of co-ordinated efforts to improve the flow of cash. Suppose, there would have been an agreement that wholesalers accept cash payments from retailers and that in general, cash would be used more than before in transactions between companies. Even in this case, cash would not have immediately reached all entities that needed to make cash payments.[13] Moreover, the amount of cash in circulation was determined by the cash needs of the economy when the banks were open. Thus, the quantity of cash would have been much too small to carry out such a huge transaction value. Finally, as some entities were also saving during this period, it is likely that some of this saving was in cash. Such hoarding would have reduced the amount of cash available for transactions. Therefore, in many transactions the alternative would have been cheque payment or no transaction at all. As a consequence, increasing attempts to contain risks would have led to fewer transactions.

If there is only limited scope for a switch from cheques to cash, the remaining option is a reduction of transactions. In order to limit the growth of the value of cheques received, transactors would have to accept fewer cheques per period. Risk would still be rising but not as fast any more. Still, this by itself might already have a strong negative impact on economic activity. However, if transactors are also concerned about clearing risk, this might create a

[13] A company producing for delivery in 6 months from now still would have to pay workers in the intermediate months.

downward spiral in spending. From an individual point of view, achieving *R*>*W* seems simple. However, in this case what works for an individual does not work for the economy as a whole. For each point in time t, for all transactors, cheques written equal cheques received

(5) $$\sum_i R_i^t = \sum_i W_i^t$$

with i=1…n: the transactors in the economy and *R* (*W*): value of cheques received (written)

If all transactors try to create a positive balance between *R* and *W* they will end up reducing the value of cheques written. Each transactor will find that the value of *R* is lower than expected. This may prompt transactors to try again. But by the same logic in the aggregate such an attempt would prove to be futile. But the side-effects could be severe. As long as transactors kept trying to create *R*>*W* aggregate spending would fall. Each transactor, seeing R fall might be even more inclined to reduce *W*, re-enforcing the downward trend in spending.[14]

A system without clearing and settlement cannot function properly, once risk becomes a major point of concern. As transactors are trying to limit risks they are pushing the economy on a downward path of spending and income. So, while it may indeed be the case that credit can be used a substitute for money, there still has to be some kind of clearing & settlement. Otherwise a payment system based purely on credit is likely to implode – with grave consequences for the real economy.

Ireland did not reach such a critical point. First, for people with a certain amount of savings in the bank, say equal to one or two years of annual income, accumulating cheques with a value of 6-7 monthly incomes may not pose too much risk. Second, for companies managing a certain amount of debt (against suppliers) and credit (vis-á-vis clients) may be more or less business as usual. Thus, both sectors did not have big incentives to change their behaviour within the time span of the strike.

The risks involved in a system of non-bank credit with uncertain settlement date became visible once settlement finally took place. After the termination of the strike, there was an abnormally high level of bankruptcies and liquidations of businesses.

"…, most firms incurred a greater volume of bad debts during the period of the dispute than they would normally experience, and there was quite a serious problem in a substantial number of cases." (Central Bank of Ireland 1971, 10)

Moreover, fraud increased because without clearing and settlement it was almost impossible to detect.

[14] Ultimately, in such a situation of crisis, alternative solutions would have to be considered, all of which would have involved high transaction costs: return to barter, set-up of alternative clearing and settlement mechanisms for cheques and/or use of alternative media of exchange (e.g. payable order of the government).

"The press reported in the middle of February that the Fraud Squad was investigating 750 cases of fraud, ten times more than the normal load, arising largely out of the bank dispute. Most of the sums were small." (Fogarty 1971, 36)[15]

All of these problems which emerged after the re-opening of the banks seem to be fairly small. But it has to be taken into account that these problems would have been much larger had the banks not been fairly generous in extending overdrafts once clearing and settlement was resumed. In this way, cheques were honoured which otherwise would have been returned.

7. Once more: money and credit

When discussing the benefits of money, economists frequently compare monetary exchange with barter.[16] However, as Hawtrey has pointed out, for a modern economy, barter might not be the right benchmark against which to estimate the benefits of money. Rather than "to turn to remote and benighted communities which have never learnt the use of it [money]," we should turn to an "organised and civilised society" in which debt could be used to facilitate transactions (Hawtrey 1919, 3).

The Irish bank strike provides a fascinating experiment. During the strike, a large part of the money supply (deposits) was not accessible and the other part (cash) could only circulate with the help of credit.

Interestingly, there was no reversion to barter. In Ireland, an "organised and civilised society", credit took over the role usually played by money. It was used as a means of exchange and, in addition, it was used to obtain cash.

This result suggests that Hawtrey was right. When assessing the advantages of money the alternative is credit rather than barter. To a surprisingly large extent, in Ireland personal credit was used as a means of exchange. As reported in section 5, this finding has led some economists to conclude that credit could replace money and that "learning" would make the substitutability between money and credit ever closer. However, as argued in section 6, such an outcome seems extremely unlikely. Without money as a means of settlement debts would be rising and a situation of exchange based purely on credit would become less and less sustainable. Thus, credit is only an imperfect substitute for money.

The situation in Ireland in 1970 had a lot in common with the situation analysed by Ralph Hawtrey in the first chapter of "Currency and credit" (1919). In this chapter, he looks at a situation characterised by "credit without money". For a modern reader the wording is a little mis-leading. Hawtrey looks at a situation with credit money (bank notes or deposits issued by commercial banks) but no legal tender (commodity money or bank notes issued by central banks). While acknowledging that an equilibrium is principally possible, Hawtrey (1919, 14) argues that it is unstable. There can be either a self-enforcing downward spiral of credit destruction or upward spiral of credit creation. Given the incentives of the banking

[15] The problems would have been much larger had the banks not been fairly generous in extending overdrafts once clearing and settlement was resumed. See section on "implicit bank credit" below.

[16] Search theoretic models in the spirit of Kiyotaki and Wright (1993) are well-known examples.

sector, he thinks that an upward spiral is more likely. His argument seems to contradict the hypothesis derived above, that Ireland would have faced a downward spiral had the strike lasted much longer. However, this difference can be easily explained. In his thought experiment, Hawtrey assumes that there never will be a possibility to settle. In the case of Ireland, however, all actors expected the banks to open soon so that ultimately all debts would have to be settled.

Still, Hawtrey's analysis has one important factor in common with the analysis of the Irish case: the instability of credit in the absence of a means of settlement ("means for the legal discharge of a debt", Hawtrey 1919, 15). A system mainly based on credit only works if there is a means of settlement. Otherwise it is likely to implode or explode.

Interestingly, a situation like in Ireland during the strike is also quite similar to a Walrasian auction. Whereas in Ireland during the strike a transactor could simply purchase goods by writing a cheque that would be settled at some unknown future date, participants in a Walrasian auction can simply "buy" current goods (goods for immediate delivery) by "selling" goods that will be delivered in the future.[17] In fact, there is no need of any financial assets.

In the Irish case as well as in a Walrasian auction, there is no systematic mechanism that restricts the participants from fraudulently (or over-optimistically) selling too many future goods. In Ireland, things did not get out of hand because banks were closed only a few months and because transactions mostly took place between counterparties that knew each other. In the Walrasian framework, the problem is simply assumed away. The Walrasian auctioneer has to find equilibrium prices and quantities and has to match counterparties for individual transactions. But there is no mechanism to ensure that participants will make the promised deliveries. It is not clear what would happen if some participants do not fulfil their obligations.[18]

8. Conclusions

The Irish bank strike of 1970 is a fascinating experiment in monetary economics. At first glance, the relative benign effects of the strike seem to support the view that money and credit are close substitutes. For the seven months of the strike, credit replaced money to a surprising extent – vindicating those who see credit as an almost perfect substitute of money.

However, a thorough inspection of this period shows that towards the end of the strike severe strains on the system became apparent. More or less all actors in the economy were exposed to rising risks. Such a situation would have been unsustainable. However, the attempts to contain individual risk-taking would have led to a downward spiral in the value

[17] Suppose, I bought a 1962 Ferrari from some collector. At the same time I sold a guided tour to the Mount Everest for 10 people taking place in 2036. The Ferrari seller will not bother much about my forward sale. He wants a yacht today for his wife and he gets it. But whether the 10 buyers of the Mount Everest tour will eventually get it – that is a matter of faith.

[18] One might object that this is not a problem because it may be dealt with by using contingent contracts. But, of course, there is no presumption that the market for contingent claims is any better protected against fraud (or over-optimism) than the market for unconditional forward trades.

of cheques written and accepted. In other words: credit would have imploded. We do not know how economic agents would have responded in such a situation. Possibly, some form of debt, say government issued cheques or payable orders, would have been used as a means of payment. In any event, the economy would have required some mechanism to clear cheques and a medium to settle net balances – something that can perform money's role as a "means for the legal discharge of a debt" (Hawtrey 1919, 15).

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