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Money and Credit: Lessons of the Irish Bank Strike of 1970

Malte Krueger*

Abstract

In Ireland, there was a bank strike that led to a complete shut-down of the main part of the banking system from May to November 1970. The effects of this strike were surprisingly limited. This had led some observers to conclude that trade credit can easily substitute for bank deposits as a means of payment. In this paper, it is shown how cash and cheques were used as substitutes and complements allowing for "business as usual" for an extended period of time. This paper argues that such a situation would not have prevailed much longer. The lack of a proper settlement mechanism implied that risks were rising for almost all transactors. In order to contain risks the use of trade credit would have declined and economic performance would have deteriorated progressively.

Geld und Kredit: Lehren aus dem irischen Bankenstreik von 1970

Zusammenfassung

In Irland hat 1970 ein Streik der Bankangestellten dazu geführt, dass wesentliche Teile des Banksystems von Mai bis November geschlossen waren. Die Auswirkungen dieses Streiks waren erstaunlich gering. Dies hat einige Beobachter zu der Schlussfolgerung veranlasst, dass Bankeinlagen als Zahlungsmittel sehr leicht durch Handelskredit ersetzbar sind. In dem vorliegenden Beitrag wird gezeigt, wie Bargeld und Schecks sowohl als Substitute als auch als Komplemente einen weitgehend störungsfreien Fortgang des geschäftlichen Lebens ermöglicht haben. Es wird jedoch argumentiert, dass dieser Zustand nicht sehr viel länger Bestand gehabt hätte. Ohne die Verfügbarkeit eines Settlement-Mediums nahmen die Risiken aller am Wirtschaftsleben Beteiligten ständig zu. Im Laufe der Zeit hätte die Vergabe von Handelskredit zunehmend eingeschränkt werden müssen, um diese Risiken zu begrenzen. Eine solche Einschränkung hätte die wirtschaftliche Aktivität zunehmend belastet.

Keywords: money, banking, payments, clearing&settlement, Ireland, trade credit

JEL Classification: E02, E59, G21, N14

* Prof. Dr. Malte Krueger, University of Applied Sciences Aschaffenburg, Faculty of Business and Law, Würzburger Str. 45, D-63743 Aschaffenburg, E-Mail: malte.krueger@h-ab.de.

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I. Introduction

In Ireland, there were a number of bank strikes that led to a complete shutdown 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 have subsequently been published (Central Bank of Ireland 1971; *Fogarty* 1971). A few years later, *Murphy* (1978) took up the issue. For decades, his article has been about the only academic publication on this topic. Only very recently, the topic has been "re-discovered". *Manning/Nier/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/Zimmerman* (2016) were motivated by the recent incidences of bank closures in Cyprus and in Greece to take up the issue. They argue that the Irish experience cannot be applied to countries in which the solvency of the banks is in doubt.

The analysis below focusses particularly on two issues, first, the role cheques played to keep the economy going and, second, the question whether the economy would have continued to perform well had the strike lasted much longer.

Section 2 sums up the findings of the two key sources, the reports of the Central Bank of Ireland (1971) and *Fogarty* (1971). Both reports show that in spite of some problems the economy performed reasonably well. Section 3 explores the main factors that helped to keep the economy afloat. It highlights the importance of cheque use as a means of payment and a means to keep cash circulating. Thus, cash and cheques were not simply substitutes, they also functioned as complements. Subsequently, section 4 provides an in-depth analysis of the cheque acceptance decision. For a number of payment scenarios the pros and cons of three distinct acceptance strategies are compared; "cash only" and two strategies involving cheque acceptance. It turns out that a "cash only" strategy has severe draw-backs. However, the analysis also shows that time is an important element. Depending on the payment scenario and acceptance strategy risks may build up over time. This result is further pursued in the following section. In section 5 it is argued that problems would have become much more severe if the strike had lasted much longer. Since the stock of cheques written and received was bound to rise over time so were the risks for market participants. Once market participants would have moved decisively towards containing these risks, the economy would have suffered.

Thus, the Irish example shows that (non-bank)credit may indeed alleviate the shortage of (bank-)money but only to some extent. With the banks closed, non-banks did not have access to a workable clearing and settlement mechanism. Without such a mechanism, use of credit is bound to raise risks in the economy to unacceptable levels.

II. 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, p. 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. 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.

The Associated Banks were the ones that were closed down by the strike. 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 groups as a substitute.

The strike itself lasted from May 1 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).

Although, the Associated Banks remained completely or partially closed for almost an entire year "the Irish economy did not implode" (*Norman/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).

Murphy (1978) 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.

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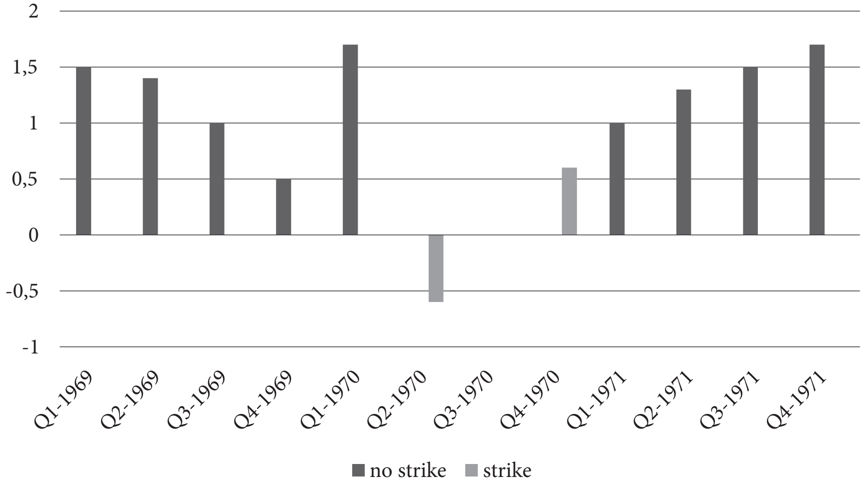

Figure 1: Quarterly Growth of Real GDP per Capita[1]

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

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

Similarly, *Fogarty* (1971) 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 5 below). But the overall picture that emerges is that of an economy which continues to function relatively well, in spite of the bank closures.

[1] Growth rate compared to previous quarter, seasonally adjusted. Source: OECD, Quarterly National Accounts, Gross domestic product – expenditure approach.

III. 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 (the UK Pound) 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). When it came to paying for imports, companies with export earnings 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).

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) 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 situated 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, p. 28).[2] 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.

> "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, p. 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 *Norman/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 facil-

[2] In fact, the Central Bank of Ireland (1971) 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. According to *Fogarty* (1971) trade unions would not have accepted an aggressive policy of the other banks to win over clients from the Associated Banks.

itated 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.

Cheques were widely accepted, but according to the Central Bank of Ireland they did not circulate like bank notes.

> "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, p. 29)

That implies that those employees 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). The same is true for companies who often had to draw their own cheques rather than pass own cheques received by clients.

However, this statements seems to underestimate the importance of cheques that were passed on. According to anecdotal evidence, some cheques were passed on many times (*Cockburn* 2015; *Norman/Zimmerman* 2016).[3] Thus, even if at the end of the strike the number of cheques that had been passed on was relatively small, it may still have had a large share in payments. Suppose that only 10 per cent of cheques had been passed on and, on average, each cheque had been used for nine payments. In such a case the market share in payments of these "re-used" cheques would be 50 per cent. We do not know the true shares but it must have been much more important than suggested by the statement of the Central Bank of Ireland quoted above.

Consequently it seems safe to assume that cheques from well-known institutions could be passed on and provided an additional medium of exchange. In terms of risk, for an acceptor they were almost as good as cash, since they could be passed on. Credit risk consisted of the risk of default of the original drawer – and only for the brief period between accepting the cheque and re-spending it. In terms of convenience, a cheque might even be better because compared to cash it is less exposed to the risk of theft.

Thus, some cheques were actually circulating whereas others were used once and then were held by the initial recipient until the end of the strike.

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

[3] The Economist (1966) also reports that employees cashed pay cheques at shops during the strike of 1966.

Central Bank of Ireland stated that they normally paid most wages and salaries in cash (Central Bank of Ireland 1971). 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).

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.

To start with, non-banks went into the strike period with relatively high cash balances (see Figure 2). In the weeks preceding the bank closure, there were large currency withdrawals pushing currency in circulation above December levels (Central Bank of Ireland 1971). 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.

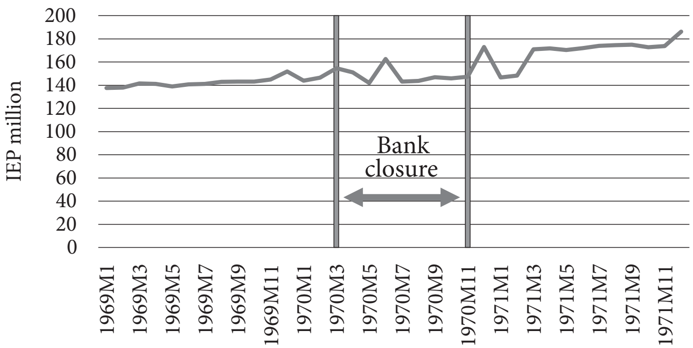

Figure 2: Currency in Circulation[4]

[4] Source: IMF, IFS, Historical country tables. Most of the data for the strike period had to be estimated by staff of the Central Bank of Ireland.

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.[5] Foreign tourists a well as Irish exporters augmented the stock of cash in circulation. According to *Manning/Nier/Schanz* (2009), 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.

> "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, p. 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, p. 9)

The same seems to have been true for building and construction companies and for the service sector (Central Bank of Ireland 1971). In addition, about 25 per cent of workers were paid by cheque. (Central Bank of Ireland 1971). 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). In this way, cash could circulate.

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. Still, the wide acceptance of cheques that would not be cleared in the proximate future calls for further analysis.

[5] On the history of the Irish Pound, see *Kelly* (2003).

IV. The Acceptance Decision

Cheques were not only used as means of payment for goods and services. Cheques were also used to obtain cash. 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 *and* 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.

The wide acceptance of cheques during the strike looks surprising, at first. However, one has to consider the alternatives from the point of view of market participants. First, not transacting at all, seems to be an option that would have been feasible for very few people (including those that chose to emigrate)[6] or institutions. Thus, the relevant options can be boiled down to a number of acceptance decisions. When analysing these acceptance decisions it has to be taken into account that an acceptor is also a payer.

There were three types of incoming payments: Cheques written by a well-known person or institution which could be passed on (Y*-cheques). Cheques of a person or institution that would have to be kept (Y-cheques) and cash. Outgoing payment could be made by passing on Y*-cheques, by drawing own cheques (X-cheques) or in cash. Moreover, market-participants had the option to convert cheques into cash or vice versa (intermediate steps).

[6] Interestingly, a substantial portion of younger bank employees that were on strike went to London to take up temporary work there (The Economist 1970).

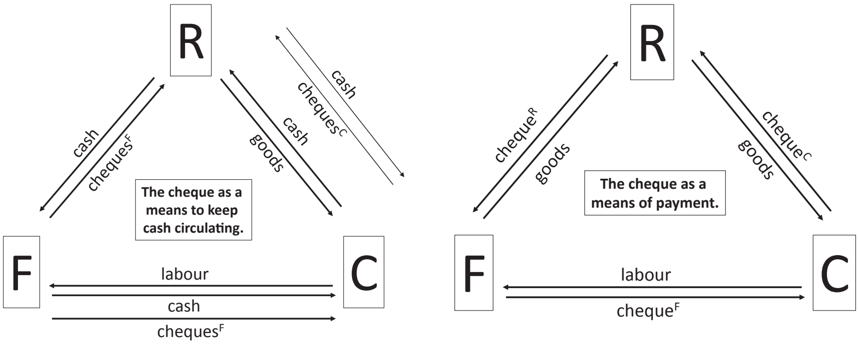

Figure 3: The Two Uses of Cheques During the Strike[7]

Taking the possibility of intermediate steps into account, there are eight different constellations between incoming and outgoing payments (Table 1). The pros and cons of the three strategies are summarised in Table 2.

"Cash only" (CO) seems to be a logical policy for a merchant wishing to contain risks. But CO may lead to reduced sales because some customers might not have access to sufficient amounts of cash. Potential losses of sales would also depend on the relative share of companies insisting on CO. A high ratio would increase the scarcity of cash and depress sales. Over time, as cash gets frozen in hoards, the scarcity of cash might even rise.

Lost sales are not the only aspect to observe. The relative merits of a CO strategy depend on the policy of the suppliers of CO companies. From the point of view of an agent accepting cash it would be best if cash could also be used to make payments (e). Another scenario would be cash flowing in and being paid out against Y*-cheques which could be used in payments (g). However, if cash cannot be paid out against Y*-cheques, an agent would either have to pay out cash against Y-cheques and make payments with X-cheques (f) or accumulate cash and make payments with X-cheques (h). "f" is not really an option because an agent (for instance a merchant) who pays out cash against Y-cheques might as well accepts Y-cheques also in payment for goods and services. "h" is also problematic because over time large amounts of cash would have to be stored – a matter involving risks and costs. Thus, CO is a convenient strategy only if cash can also be used to make payments or if cash can be converted into Y*-cheques. The availability of one of these options depends on other market participants. For retailers, for instance, a large part of outgoing payments are to wholesalers

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

Table 1

Payment Acceptance: Different Strategies

	Incoming Payment	*Intermediate Steps*		*Outgoing Payment*	*Balance Sheet Effects*
		Out	*In*		
a	Y-Cheque			X-Cheque	+A/+L
b	Y-Cheque	X-Cheque	Cash	Cash	+A/+L
c	Y*-Cheque			Y*-Cheque	
d	Y*-Cheque	Y*-Cheque	Cash	Cash	
e	Cash			Cash	
f	Cash	Cash	Y-Cheque	X-Cheque	+A/+L
g	Cash	Cash	Y*-Cheque	Y*-Cheque	
h	Cash			X-Cheque	+A/+L

Cheques Y: cheques that have been received and that cannot be passed on
Cheques Y*: cheques that have been received and that can be passed on
Cheques X: own cheques
+A/+L : accumulation of assets/liabilities

who did not wish to be paid in cash. How much cash they could pay out against Y*-cheques was also not under their control.

Assuming that Y-cheques and Y*-cheques can be distinguished with some confidence, accepting cash and Y*-cheques (CY*) would also seem a prudent strategy. Y*-cheques could be used for payments or also to acquire cash. Moreover, to the extent that somebody has receipts surpassing expenditures, Y*-cheques could be used as a convenient savings vehicle. Thus, CY* seems to be a better strategy than CO. The only drawback is the non-zero risk that even Y*-cheques might bounce. But as long as Y*-cheques were used as a means of payment only, the stock of these cheques in the balance sheet of an agent was likely to be small. Thus, the additional risk, compared with CO, was small.

Overall, as the strike did not last too long, cheque accumulation was not excessive and AI seems to have been the preferred strategy of many agents. However, as the strike went on, the relative advantage of AI was bound to change (see section 5).

Since there were also payers that could neither offer cash nor Y*-cheques, both strategies, CO and CY* implied a loss of business. The expected loss of business may have been substantial and therefore, accepting all instruments (AI) may have been preferable (Table 2). Accepting Y-cheques would have in-

Table 2

Pros and Cons of Three Acceptance Strategies

	CO	CY*	AI
loss of business	substantial	medium	small
credit risk	zero	low	limited
cheque accumulation	zero	limited	substantial
cash accumulation	substantial	zero	limited or zero

CO: cash only, CY*: cash and Y*-cheques, AI: all instruments (incl. Y-cheques)

creased credit risk because Y-cheques could not be passed on. Thus, an indiscriminate acceptance would have been too risky. But accepting Y-cheques from known customers seems to have been an option widely chosen. Irish households and companies, in particular retailers and pubs seem to have been confident to estimate the risks posed by cheques that were offered in payments. Moreover, accepting Y-cheques helped them to limit the amount of cash they had to store.

V. Business as Usual During the Strike: Why it Would Not Have Lasted

Murphy (1978) describes the problems that emerged during the strike as of minor relevance which were mainly important in the initial phase of the strike, subsequently "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, p. 47).

Based on Murphy's analysis, *Birch* (2014, pp. 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 analyses of the Central Bank of Ireland (1971) and *Fogarty* (1971) paint a different picture, however. They highlight the increasing strains to which the system was put by the closure of the banks. 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, as the analysis below will show, the non-bank sector encountered a rise in credit and clearing risk that would have triggered painful adjustments had the strike continued much longer.

1. *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, pp. 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) 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).

For the real estate sector, the evidence is mixed. The Central Bank of Ireland (1971, p. 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, p. 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). 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, p. 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, p. 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, p. 18).

2. Payment Frictions

With the banks closed, carrying out payments become more difficult and required more resources. The Central Bank of Ireland (1971, pp. 9–11, p. 16, p. 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, p. 39) notes the "widespread strain, cost, inconvenience to users of bank services" and others.

3. 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, many households and companies could hardly avoid accumulating rising amounts of cheques. Cheques which could not be passed on (Y-cheques) to third parties were not circulating. As a consequence, many 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.

Thus, all of those active in the economy who could not rely on income in the form of cash or Y*-cheques 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 (cases a, b, f and h in Table 1). A substantial part of households and companies, merchants above all, 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, many may be forced to accept the ballooning of their balance sheets.[8]

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, 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.

> "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, p. 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).

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). There was the practical dimension: comprehensive bank statements were missing.[9] 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

[8] 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.

[9] 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.

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 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. To some extent, clearing risk could be alleviated by overdrafts. But overdraft would have its upper limits the size of which was uncertain for economic agents.

For many transactors, an increasing part of assets consisted of cheques received from other parties. This could be Y-cheques or Y*-cheques. But since Y*-cheques could be used to make payments, it would have been mostly Y-cheques that were accumulated. 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 drawn. 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 drawn. 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, or overdraft provided by banks. For transactors without sufficient funds on bank accounts or overdraft facilities 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

$$(1)\qquad (1-\mathrm{f})R_i^T + D_0 + C_i^T + O_i \geq W_i^T$$

with $i = 1 \dots n$: 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; O_i: expected size of overdraft.

Re-arranging yields:

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

For a rising length of the strike (rise of T) W rises whereas D and O remain constant. Thus,

$$\frac{D_0}{W_i^T} \to 0; \frac{O_i}{W_i^T} \to 0 \tag{3}$$

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[10]

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

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

- try to contain the growth of the stock of cheques received (R^{T}) and
- try to contain the value of cheques written relative to the value of cheques received ($W^{\mathrm{T}}/R^{\mathrm{T}}$).

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 or Y*-cheques.

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

However, simply replacing Y-cheque transactions with cash transactions or Y*-transactions would not have been possible. The amount of Y*-cheques in circulation depended on the spending of the drawers of these cheques and not on the demand of the market. Similarly, individual market participants could not simply decide to use more cash. As discussed above, cash was not flowing

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

"full circle". In particular, a significant part of 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 Y-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.[11] 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 a Y-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 Y-cheques to Y*-cheques or cash, the remaining option is a reduction of transactions. In order to limit the growth of the value of Y-cheques received, transactors would have to accept fewer Y-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 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

$$\sum_i R_i^t = \sum_i W_i^t \tag{5}$$

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

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

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.[12]

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. However, towards the end of the strike, risks must have become a cause for concern. According to the estimates of the Central Bank of Ireland (1971), the volume of uncleared cheques amounted to 5,000 IEP (equalling almost three times GDP).

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 a general feeling of uncertainty and 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.

> "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, p. 36)

As far as the Associated Banks are concerned, for the 15 months ending 31 March 1971 there was a decline in profits compared with the year 1969 (Central Bank of Ireland 1971). A "decline in profits" indicates that there were increased bad debts but not at dramatic levels.

[12] 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).

So, all in all there were problems after the re-opening of the banks. But given the value of uncleared cheques at the end of the strike, these problems seem to have been relatively modest. Still, 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.

The Central Bank of Ireland (1971) 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 %.

Thus, ex post the Associated Banks sanctioned decisions which their customers had been taking during the strike. In this way, cheques were honoured which otherwise would have been returned. The Central Bank of Ireland (1971, p. 51) argues that the Associated Banks had little choice because "a refusal by the Associated Banks to sanction a large part of the bank credit that had been pre-empted during the dispute would have disrupted economic activity."[13]

VI. Money and Credit: Substitutes and Complements

When discussing the benefits of money, economists frequently compare monetary exchange with barter.[14] 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, p. 3).

The Irish bank strike provides a fascinating experiment in the spirit of *Hawtrey*. 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. Interestingly, credit also served as a means to keep cash in circulation. Consequently, credit (cheques) and cash were also complements.

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[13] This does not mean that all cheques were honoured.

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

In an advanced economy the main medium of settlement used by non-banks is bank money. In terms of the value of transactions, cash plays only a secondary role. During the bank closure non-bank credit replaced bank money in facilitating exchange. But non-bank credit could not replace bank money as a medium of settlement ("means for the legal discharge of a debt", *Hawtrey* 1919, p. 15). As the Irish example shows, settlement can be postponed for a while. But ultimately, a sound credit system requires a functioning settlement system.

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.[15] 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.[16]

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[15] Suppose, someone bought a 1962 Ferrari from some collector. At the same time he sold a guided tour to the Mount Everest for 10 people, taking place in 2036. The Ferrari seller will not bother much about the risks posed by a long-term forward transaction. He wants a yacht today for his wife and he gets it via a spot transaction. But whether the 10 buyers of the Mount Everest tour will eventually get it – that is a matter of faith.

[16] 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.

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