INFLATION IN ISRAEL: THE FAILURE OF WAGE AND PRICE CONTROLS

By Donald L. Losman

Israel has experienced almost continuous inflation for its entire 29 year existence, the average annual rate being roughly 9-10 percent. Such rates of price increase were at one time unthinkable in the U.S., but with American inflation of 8.8 percent in 1973, 12.2 percent in 1974, and 7.0 percent in 1975, there are many who believe that a new norm may be in store. Others are alarmed at this substantial increase in inflation rates and hold that significant measures must be undertaken to contain inflation to 3 percent or less. Table 1 shows annual price increases for both the U.S. and Israel from 1948 through 1971. The table clearly shows the substantially higher Israeli rates of inflation and the worsening of inflation which began in 1966 in the U.S. Although any comparison of the Israeli and American economies shows tremendous differences, there are important similarities which should lead us to regard the Israeli experience as an example to American policy makers of how not to react to inflationary symptoms.

At the outset, the clear and direct relationship between rising prices and increases in the money supply should be stressed. Not surprisingly this relationship, manifested in almost all historical studies of inflation throughout the world, holds true for Israel as well.

> Over the period from 1949 to 1971 as a whole, money supply increased at an average annual rate of around 19 percent, slightly less than the combined (and compounded) increase of the real GNP and its price level, which came to about 22 percent. (1)

In the Israeli case, price level movements generally followed money supply changes with a time lag of about ten to twelve months. This paper will take increases in Israel's money supply and the accompanying rates of inflation as given data, with no attempt at detailed explanation. Instead, the policies pursued to eliminate inflation or mitigate its effects will be examined.

The reader, however, must bear in mind the essential relationship between the money supply and the price level. If there is an increase in the money supply unaccompanied

Table 1
Annual Rates of Inflation
Israel & the United States

1949-1971

Year	*Israel**	*U.S.***
1949	% 2.4	% -1.8
1950	-6.6	5.8
1951	13.7	5.9
1952	58.0	0.9
1953	28.4	0.6
1954	12.2	-0.5
1955	5.9	0.4
1956	6.4	2.9
1957	6.4	3.0
1958	3.3	1.8
1959	1.6	1.5
1960	2.2	1.5
1961	6.7	0.7
1962	9.5	1.2
1963	6.8	1.6
1964	5.2	1.2
1965	7.7	1.9
1966	8.0	3.4
1967	1.6	3.0
1968	2.1	4.7
1969	2.6	6.1
1970	6.1	5.5
1971	11.5	3.4

*1963 = 100 **1967 = 100

Source: Bank of Israel, Annual Reports; Federal Reserve Bulletin.

by a corresponding increase in production, the additional money will have to be absorbed in some fashion. There are several ways this can be done. All the new money could be hoarded — this form of saving would soak up the additional purchasing power. If, on the other hand, all the additional money were spent, thus adding to the previous amount of money being used to purchase output, prices will be driven up to levels at which the limited amount of society's goods could be rationed among the multitude of demanders who now are bidding for those items with increased purchasing power. The increased money is thus absorbed via higher prices. If the creation of new money is a one-shot injection (rather than continuous), prices will rise sufficiently to absorb the extra purchasing power and then stabilize at new, higher levels. Another possibility is the use of the new purchasing power for the procurement of foreign goods, which would eliminate pressure upon domestic prices (since the availability of foreign supplies is akin to increased domestic output, both of which will absorb the new purchasing power), but perhaps aggravate balance of payments problems. Yet another possibility is the net transfer of funds to the government, which holds the money idle, such as sufficient taxation to allow a budget surplus. In actual practice, all these theoretical possibilities, to varying degrees, may prevail, although hoarding is the least likely since money during inflations is a depreciating asset.

Early Background

Without getting into the peculiarities of the Israeli situation, into the politics of governmental goals and actions, suffice it to state that in the early years of statehood, particularly the austerity period of 1948-1951, there was continuous government deficit spending financed by money creation. From December, 1948, through September, 1951, the money supply increased from 103 million Israeli pounds to 252 million, about 145 percent, (2) with increases in production of less than 35 percent. Accordingly, substantial inflationary pressures developed as this enormous growth in purchasing power sought outlets. In April, 1949, the government announced maximum prices for most goods and introduced comprehensive rationing of clothing, food, and raw materials. Hence, price controls and rationing were utilized as an attempt to suppress inflationary pressures.

Consumers, with growing money incomes, were unable to dispose of the funds since price controls did not allow rising prices to absorb the new money and low output coupled with rationing did not permit increased purchases at the controlled prices. However, money was not hoarded. Instead people took their funds and bought non-essential goods (which were not price-controlled) or purchased essentials on the black market. The latter, of course, is a free market (one in which prices respond to the movements of supply and demand) either involving a good deemed illegal or at prices decreed to be illegal. Hence, the rapid increase in Israel's money supply, in excess of additional production, was absorbed in three basic ways: 1) the creation of black markets, in which prices were quite high, for price-controlled items, 2) rising prices for uncontrolled, non-essential items, and 3) growing purchases of foreign products.

During this period, however, the official cost-of-living index, maintained by price controls, did not rise. Indeed, by a series of administrative decrees prices were reduced during 1949 and 1950. While governments may decree prices (although enforcement of such decrees is not always possible) they cannot decree output. Hence, despite the 14 percent decline in the official index, there was relatively little which could be purchased at controlled prices. Shortages of essentials, whose supplies were not forthcoming at the allowed prices, became commonplace. The official cost-of-living index was fictitious because it "almost completely ignored the prices of the growing black market, which became particularly important after the unanticipated overnight introduction of clothing and footwear rationing on August 1, 1950." (3) Black markets became so widespread that the published price index departed increasingly from the realities of life for the consumer. Table 2 compares black market and official prices. It shows that the "in the street" price for sugar was 25 times the controlled price, while rice sold for 10 times the official price. The continually expanding money supply, coupled with growth of the black market, a drought in the 1950-1951 winter which reduced agricultural supplies and thereby aggravated price pressures, and the general public's recognition that the official cost-of-living index meant nothing forced a reassessment of government policies. An important additional factor was the critical foreign exchange situation. Both shortages and high black market prices led to heavy purchases of foreign products and the nation's foreign exchange reserves were rapidly diminishing. In short, the "system could no longer sustain the inflationary pressures." (4)

Table 2
Individual Black-Market Prices and Their Relationship to Official Prices[a]

1951&1953

		September 1951	May 1953
Fresh Meat			
black-market price[b]		4.000	6.000
ratio to official price		7.7	3.0
Poultry	price	4.500	5.000
	ratio	4.5	2.1
Eggs	price	0.100	0.120
	ratio	3.2	1.7
Margarine	price	1.500	2.000
	ratio	6.8	4.4
Edible oil	price	2.000	2.500
	ratio	9.3	5.6
Sugar	price	1.750	1.800
	ratio	25.0	10.0
Coffee	price	3.500	6.000
	ratio	2.7	1.8
Rice	price	0.600	2.000
	ratio	10.0	14.3
Potatoes	price	0.400	0.180
	ratio	5.7	1.2

a. Prices are per kilogram except for eggs (per unit). Data refer only to Tel Aviv.
b. Prices quoted in Israeli pounds.

Sources: D. Patinkin, *Studies in Monetary Economics*, New York: Harper & Row, 1972, p. 79.

A new course was steered, one in which 1) there was an attempt to ease further credit creation and 2) to relax price controls so that the previous suppressed inflation could work itself out. Interestingly, this latter policy of disinflation required that prices rise, at least for a period, in order for the past growth in the money supply to be absorbed. By holding down further monetary growth, but allowing prices to reach market-clearing levels, it was hoped that stability of the price level could be achieved. A second goal of the new policies was the elimination of price distortions. Controls, by their uneven coverage and arbitrary manipulation, had resulted in a lack of balance in price relationships. (5) For example, the high price of labor relative to that of capital led to the unwarranted usage of capital, a factor in short supply, and the economizing of labor, a relatively abundant factor. Imports were priced too cheaply relative to domestic goods. These and many other distortions had been spawned during controls and were retarding economic progress.

Price Controls in Operation

Food items were a major portion of the typical budget and the largest single category in the official cost-of-living index (41 percent of the 1951 index). In 1949 some 62 percent of total food outlays were price controlled, this coverage steadily being increased, reaching 95 percent in 1951 and then steadily dropping under the new economic policies. (6) As mentioned; controlled prices were reduced by government fiat, producers generally being forced to lower prices by reduced profit margins, but also through reduced tariffs and selected subsidies. Price ceilings were usually based upon production costs plus a reasonable profit margin. Hence, whenever costs went up, either profit margins had to be further squeezed or maximum prices raised. Artificially low controlled prices tended to reduce supplies, as did diversion of goods to the growing uncontrolled (illegal) markets. With consumers clamoring for goods and producers clamoring for higher prices, the government was forced to allow gradual upward adjustments in controlled prices.

Price controls were administered by a staff of over 3,000, a relatively large number for a nation of less than 1.4 million persons (in 1950). Inspectors made frequent visits to stores and consumers were encouraged to report control violations.

Courts to deal with "economic offenses" were established and empowered to levy heavy fines and sentences, and a variety of administrative techniques employed to discourage contravention. Rubner reports of the control ministry's "valiant efforts to thwart the resulting black markets through mass arrests, road blocks, the checking of personal luggage of travellers," (7) and related inspections. It should be noted that during the initial period of controls the public generally cooperated in abiding by them, but as time passed the black market became increasingly important and touched almost every aspect of Israeli life.

As shortages became more acute however, black markets spread and contravention of the regulations became commonplace. A 1950 government study indicated that Israelis were consuming 26% more food than the official rations allowed, "paying for this excess amount at black market prices which exceeded the official ones by 129%." (8) Indeed, entire sectors of the economy were dominated by black market practices and violations of controls were so flagrant as to include illegal purchases by the central government and municipalities and the flouting of regulations by cabinet ministers in their private activities. (9) The temptation for producers to sell at the much higher black market prices coupled with the desires of consumers who confronted continuing shortages made enforcement of price controls virtually impossible.

In an attempt to provide citizens with equal quantities of necessities, ration books were issued, entitling the recipient families to specific amounts of goods at the controlled prices. Such rationing, however, must have allocations designed for the "average" family since entitlements to the same commodities are given to all. Inasmuch as all populations in fact are heterogeneous, every family has unique tastes and values its rations differently. This, too, promotes the contravention of regulations. For example,

> members of the oriental communities . . . sold on the black market those food items which they were unaccustomed to using. New immigrants also sold rationed goods, or coupons, because their low income did not permit them to fully exploit their ration books even at official prices. (10)

Further, raw materials were allocated to firms on the basis of past operations (rather than allowing them to bid), which not infrequently led to the receipt of resources inappropriate to current needs. Such materials tended to be black-marketed by those not needing their current allocations to firms which had greater current requirements. Black market activities were so widespread and such an integral part of Israeli life that the judiciary became reluctant to enforce or mete out the heavy sentences which were provided in the law. Further, in damage suits official prices were frequently deemed unacceptable as measures of value.

The price and physical controls were not only expensive in terms of their planning, implementation, and enforcement, but highly deleterious to the efficiency of the economy. The controls brought on shortages which interrupted production and created unemployment. Further, it "was demoralizing for those few firms who obeyed the letter of the law to make losses . . . while the majority reaped illicit profits." (11) The implementation of controls also encouraged the cartelization of Israel's economic structure so that oligopolistic elements were stronger in the post-controls period.

The control of prices encouraged barter transactions and in kind payments, means of exchange far less efficient than the use of money, but more difficult for detecting price control violations. Controls also introduced numerous distortions. Entrepreneurial talents were switched from their ordinary activities to finding ways to divert goods from official to black markets.

> The black market prices were appreciably so much above the official prices that it became a commercial poposition for entrepreneurs . . . to draw factors successfully away from more economical forms of production to employment on their high-cost production processes. (12)

After controls were abolished the waste which this entailed became clear. With the rise in official prices and the subsequent withering away of black markets, these uneconomical forms of production ceased being profitable. "Hundreds of workshops and small factories had to close down." (13) Additionally, inasmuch as the excess purchasing power in the economy could not be absorbed via rising prices on controlled goods, prices on uncontrolled items increased doubly. This introduced another bias into the price system. For those businesses which did not wish to contravene controls, instead of producing for the black market, they shifted production into areas of high prices where there were no controls, particularly non-essential items. For example, with the price of potatoes and other vegetables controlled so that there was no reasonable profit to be had in their production (and sale at official prices), those farmers "who disdained the production of black market goods, turned their valuable irrigation facilities to the production of such uncontrolled luxuries as flowers." (14)

Controls also spawned visible deterioration in quality. "Shopkeepers either refused to sell at all or made conditional sales, they opened their shops late, and of course, there were long queues." (15) Output sold at official prices tended to embody inferior (cheaper) inputs so that quality of products was reduced. Lastly, controls for a time nurtured the illusion that inflation was being contained and therefore reduced pressures for early and effective action via more appropriate tools. To summarize, the Israeli attempt to "bottle up" inflation via price and physical controls not only failed in its goal of fighting inflation, but led to numerous distortions and retarded the economy's operating efficiency. As Greenwald has suggested, "with strong demand pressures, controls must be multiplied and enforcement becomes increasingly difficult." (16) Furthermore,

> not only does control become more costly the longer it is applied, it becomes more difficult to abolish. The public accumulates excessive purchasing power, and the danger grows that the lifting of controls will produce an inflation far worse than the one price control was designed to prevent in the first place. (17)

From September, 1951, to July, 1953, the relaxation of price maximums allowed prices to rapidly rise, the official price index increasing by 150 percent. (18) Relaxation of controls was deliberate and the price rises anticipated, the purpose being the absorption of the excess demand generated during the austerity period. Ironically, then, a policy of disinflation may well entail a rapid jump in prices. Further, the true increase in the cost of living is again not correctly depicted by the official indices, although in this instance the increase was probably exaggerated (as opposed to the previous underestimation). This is true because with the slowing of the growth of the money supply (beginning in September, 1951, growth fell from roughly

2.5 percent monthly to 1.5 percent monthly) (19) and the absorption of purchasing power by the higher official prices, blackmarket prices, unrecorded in the official index, rose far less than legal ones. Some even fell, while the differential between official and blackmarket prices clearly declined. As table 2 indicates, the ratio of blackmarket to official prices for meat, poultry, and eggs was cut in half, while the rate for potatoes, once 5.7 times the official price, became roughly equal to it. Hence, the rise in the "true" cost of living was exaggerated by the official figures.

Two additional measures to absorb purchasing power were employed, 1) a forced loan on all bank deposits and most types of property and 2) a budget surplus. It was considered somewhat of an achievement that the cost of living rose by only 28 percent during 1953. The period of suppressed inflation had thus been replaced by one characterized by bursts of disinflationary price increases, with 1954 or 1955 bringing a new period, one of controlled inflation in which annual price increases averaged 5 - 6 percent. The new economic policy also included a devaluation. Israel's inflation had priced its goods out of world markets; with these higher prices, only a reduced value of the Israeli pound itself could restore Israel's exports to international competitiveness. The period 1956-1961 witnessed steady growth and falling unemployment. The monetary authorities, however, were still unable to keep the rate of increase in the money supply from outstripping growth in output, although the distance between the two variables became much closer. (20) Price and physical controls were progressively eliminated and finally abolished in 1959, although governmental manipulation of prices via taxes, subsidies, and administrative enactments was a continuing phenomenon. Hence, "disguised" or indirect price controls may be said to have replaced direct controls.

The Experience of the 1960's and 1970's

The devaluation in early 1962 was inflationary. It raised the price of imports, but failed in its aim of reducing foreign purchases because of the expanding money supply and because cost-of-living provisions in most contracts magnified the higher costs due to increased import prices. "The ineffectiveness of monetary and fiscal policies in restricting demand led the government to try an income policy." (21) with a Price Office and other bodies created to nudge, jawbone, and administratively coerce producers to keep prices in line. The 1962 policy called for voluntary wage restraint and no price increases above the higher import costs. Nonetheless, wages rose by 12 percent, one-third of which was due to cost-of-living adjustments, with the remainder arising from a phenomenon known as wage drift. By this device average hourly pay may be increased without any formal increases in rates of pay. In an inflating economy, those sectors experiencing strong demand often find that they must pay more for inputs, including labor, if they are to continue to be supplied with sufficient resources. In the face of a national policy against raising rates of pay, there would be excessive labor turnover and job-switching (as employees seek new, higher paying positions) if no increases were effectuated. Hence, employers tend to pay fictitious overtime or grant bogus promotions in order to grant higher wages, yet remain within the "guidelines" concerning rates of pay.

In 1963 a freeze on both wages and prices was instituted, the price freeze being continued into 1964, while wages that year and the next were to adhere to a 5 percent guideline. Despite support for the guidelines from the national labor federation, wages rose by 10.5 percent in 1963, 11 percent in 1964, and by 18 percent in 1965 when the government, with an eye to the elections later that year, raised hourly wages for public employees not by the planned three percent, but by 24 percent! (22) Measures to control industrial prices achieved limited success; controls for services and housing were wholly ineffective. "This was apparently one of the main factors responsible for the slowing down of industrial development and the overexpansion of services" (23) which led to the severe recession of 1966. An added cause was the abrupt ending of the speculative boom in construction. Inasmuch as it is virtually impossible to price control new construction, prices soared in housing, thus attracting investment funds from the more successfully controlled industrial sector. When it became obvious that overbuilding had occurred, construction activities ground to a halt. Further, the incomes policy, by successfully limiting some industrial price increases, reduced domestic supplies and thereby aggravated the trade deficit as purchasers sought foreign suppliers and potential exports, artificially low in price, were diverted to the home market. Almost all authorities deem this experience a complete failure.

> Between 1962 and 1964 the inflationary process caused the demand for labor to increase, wages broke all institutional bounds, and wage increases were effected mainly by mass promotions on existing scales: wage drift accounted for about two-thirds of total wage increases . . . (24)

The government was forced to embrace highly restrictive monetary and fiscal measures, with 1966 bringing a recession which reached its low point in the spring of 1967. The economic difficulties arising from inflation and recession created broad public support for effective action, and thousands of persons voluntarily took wage cuts in an effort to break the inflationary spiral. The national labor federation agreed to waive cost-of-living pay adjustments. Hence, rising "unemployment accomplished what the previous use of an incomes policy alone had failed to do . . ." (25) Unemployment also ended wage drift. With national unity holding strong in the post-Six Day War (1967) period, the government was able to implement a wage freeze through 1969, keep pressures upon producers to minimize price increases, and contain expansive fiscal actions. As tables 1 and 3 show, inflation during the 1967-1979 period was very low and wage increases were very moderate. The incomes policy implemented during the second half of the 1960's was applied during a period of high unemployment, buttressed by an unusual amount of national unity, and supported by some additional autonomous factors. At least one economist (26) contends that the policy did reduce wage increases below what the unemployment situation itself would have done. Nevertheless, it appears clear that without government monetary and fiscal restraint, high unemployment, and very strong national unity, an incomes policy could not have had any effectiveness.

Despite the dismal record with price controls, direct and indirect, in August, 1971, following the devaluation of the Israeli pound, direct controls were reinstituted with the purpose of allowing price rises only in areas which embodied imports (which had become more expensive). The guidelines set allowed for price increases of 4-8 percent overall, but during the first nine months controlled prices rose between 9 and 16 percent. Price increases of this magnitude reflected neither cost nor demand factors, "but were the outcome of political compromises and were harmful to economic efficiency." (27) It is inevitable that when governments enter the picture to influence or direct market prices, there will be bargaining and pressuring and it is unlikely that the resulting prices will accurately reflect underlying scarcities or productivities. The manufacturing sector, having the least political clout, was granted the lowest price increases, which adversely affected investment and exports. In some areas controls served to push prices even higher. In apartment construction, for example, there had been excess demand and firms had been selling apartments two and three years in advance. In the face of controls firms held back on advance sales and as a result, the demand for second-hand apartments (not under price controls) soared and prices rose substantially. As in earlier situations, controls tended to reduce supplies and bias production. By the end of 1972 the futility and counter-productive nature of controls was so obvious that most were suspended and the legislation ignored.

The Cost-of-Living Allowance and Escalation Devices

The cost-of-living (COL) allowance system has been an integral part of Israeli life for almost the entirety of Israel's existence. The system was initially introduced in 1942, prior to the founding of the state, when Palestine was a British mandate. An inquiry commission studying wage problems under wartime price increases recommended that a) wage allowance be paid in accordance with changes in the cost-of-living, b) changes in the allowance were to be calculated every three months, and c) the allowance was to be paid only on that amount of wages which fell below a specified figure (so that the allowance might or might not cover the entire wage, depending upon the size of the wage). The system was put into practice by the signing of an agreement between Histadrut (national labor federation) and the Manufacturers Association and this established a pattern which has prevailed since that time, although the specifics have frequently been changed. For example, the interval between payments has been varied, formally lengthened in 1957 from three to six months (although in practice it is often one year). Additionally, the percentage of the basic wage receiving the allowance has been continually raised, and lastly, the basis of calculation, the basket of goods whose prices are measured, has been intermittantly changed. Under inflationary conditions, when the real value of financial instruments – bonds, medium and long-term contracts, interest, and wages – continuously falls, there is always a search for stability, for a means whereby nominal values can maintain their real values. The COL and various attendant linkage schemes arose in response to this need.

In 1949 escalator clauses for loans were first introduced. Although private initiative rather than government gave major impetus to such linkage, the Ministry of Finance began to offer value-linked bonds, which at first were poorly received but later seemed to become a necessity if the government were to be capable of marketing its bonds to voluntary buyers. In 1954 the Lehmann Committee recommended the linking of most government loans, either to the cost-of-living index or to the official exchange rate, the percent linked varying directly with the length of the loan. Thus given government encouragement, value-linking spread throughout the economy. Since 1957 almost all life insurance contracts have had redemption values and premiums so linked.

Israel was thus the first nation to have escalator schemes permeating the entire economy. Its experience with such a system is great and it is still probably the most value-linked nation in the world. The pervasiveness of linkage is well depicted by Rubner:

> Rabbinical courts gave judgements for separation allowances tied to the cost-of-living index . . . the Hebrew University signed an agreement with the Students Union according to which the fees were automatically adjusted with changes in the cost-of-living; the same applied to annuities and pensions . . . severance pay, benefits due . . . from provident societies . . . (28)

The history of value-linkage in Israel is an interesting one and provides some insight as to what might be expected elsewhere. As mentioned, by administrative fiat prices were reduced during the austerity period (1949-51) and the Histadrut agreed to wage rate cuts on three occasions as a consequence of the fall in the official COL index. Linkage, then, could result in a lowering of wages (and other linked items) a condition probably only dimly perceived, if at all, when linkage was first introduced. According to Weiss, the manipulation of the COL index in order to maintain or reduce prices became a "central aim of price control." (29) After price and physical controls were dismantled in 1952, a department within the Ministry of Finance was specially created to "guide" movements of the index.

> The cultivation of the art of 'influencing' the index was developed to a fine degree and pursued on several fronts. Thus in 1955 and 1956 the rationing of certain vegetables, for a few weeks only, was reintroduced in the 'decisive month,' i.e. the month laid down in the national wage agreement as being that in which the size of the cost-of-living bonus during the coming period would be determined . . . In the winter of 1957 the Government promised the Kitan company a lucrative loan . . . provided it reduced the price of certain of its articles that happened to appear with a heavy weight in the cost-of-living index. (30)

Rubner has called the cost-of-living index the "golden calf of the Israeli economy," with deliberations "on possible alterations in the statistical weights of certain items in the 'index-basket' " proceeding "on the highest political level." "Movements of the cost-of-living index are not mere statistical exercises but headline news in the Holy Land." (31)

It should also be recalled that changes in the official cost-of -living index did not generally correspond to changes in the "true" cost-of-living, the index undervaluing the actual rise from 1949 to 1952 and probably overestimating it from 1952 to 1955. Since 1955 manipulation of subsidies and administrative procedures has again served to make the cost-of-living minimize the actual decline in purchasing power, although the index is now a much more accurate guide to changes in the cost-of-living.

Generally, cost-of-living adjustments are not made unless the cost-of-living has increased by 3 percent or more compared to the level of the last change. At first the adjustment was to take place every three months, but this later gave way to semi-annual adjustments. During the past decade adjustments have sometimes been made only once per year or, for reasons to be explained, bypassed. Until 1959 cost-of-living arrangements covered only those businesses having formal labor contracts, roughly 80 percent of the labor force. After 1959 it was to be enforced everywhere, although in practice it has not been.

According to the Bank of Israel, the aim of the COL allowance is to "automatically adjust the level of wages to that of prices, and thus reduce friction in labor relations and the dislocation of production" (32) which might occur if workers resorted to strikes as a means of ensuring that their wages keep abreast of inflation. It further states that the purpose is to "protect the existing distribution of income between wage and non-wage earners" (33) against arbitrary changes wrought by inflation.

The appeal of linkage to the public basically derives from the desire for protection against falling real income during inflation. A periodic wage adjustment, based upon changes in the COL, assists labor in keeping up with the cost of living. This is also true of interest and rents. The practice, accordingly, generally has a broad public appeal. On the other hand, with almost all contracts tied to the COL, a rise in the price index is automatically (with a lag) transmitted throughout the economy, thus raising incomes and costs and is seemingly a source of further inflationary pressure. Further, because cost-of-living adjustments are exempt from income tax, cost-of-living increases raise net income to a greater degree than gross income. It should, however, be pointed out that total wage increases due to the cost-of-living allowance do not fully match the change in the cost-of-living because there is a ceiling on which the adjustment is calculated, generally some 55-60 percent of a worker's total wage payment and because there is still 15 percent or more of the work force which is not covered in practice.

Table 3 shows the actual change in average hourly wages as well as the change in such wages due to cost-of-living adjustments alone for the years 1962-1969. For three years, 1962, 1964, and 1966, the COL allowance accounted for about one-third of the total wage boost, while in 1963 the adjustment accounted for 60 percent. Clearly, the COL played a significant role in determining absolute levels of wages.

What assessment can be made of the COL system? Israeli economists seem agreed that the COL system has prevented

Table 3
Changes in Average Hourly Earnings
and Cost of Living Adjustments

1962-1969

Year	*Actual Change in Average Hourly Wages*	*Wage Changes due to COL Adjustment*
1962	12.0 %	4.0 %
1963	10.5 %	6.3 %
1964	11.0 %	3.7 %
1965	18.0 %	4.0 %
1966	19.8 %	6.6 %
1967	4.0 %	none
1968	-0.2 %	none
1969	3.2 %	none

Source: Bank of Israel, Annual Reports

numerous labor disputes which would have occurred in the absence of an automatic device for maintaining the income division between labor and capital, or between various grades of labor, when the existing distribution is distorted by price increases. This seems to be the major advantage, but at the same time it brings with it several disadvantages. By increasing money rates of return as the cost-of-living increases, the scheme tends to maintain real incomes in the face of inflation. However, if the government deems it in the national interests to lower real incomes, either by devaluation or indirect taxation, the COL system tends to negate these efforts. For example, devaluation, by making a currency less valuable in terms of others, reduces the ability of a people to procure foreign goods, thus lowering their real incomes. The devaluation is motivated by severe balance of payments problems and, to be successful, requires that the volume of imports be curtailed. However, if domestic money incomes are automatically increased due to devaluation-inspired reductions in purchasing power, the level of imports tends to be maintained since citizens now have greater incomes which tend to offset the reduced external purchasing power.

The linkage system in government securities introduces another variable into the devaluation decision itself because there will be an increase in the interest payments and redemption requirements associated with any given volume of national debt. Value-linking thus introduces an additional hurdle to what is always a difficult decision.

A COL system also reduces an economy's flexibility in adjusting to change. If an inflating economy is cooled by a recession, as was the Israeli case in 1966, COL changes can reduce employment and output. The recession brought reduced profits and falling employment; however, the 7 percent COL wage adjustment, reflecting earlier inflation, simply drove wages up, reduced profit margins further, and led to further lay-offs. Smoothness in the economy's costs and prices is also disturbed. Instead of cost and price changes occurring in small doses at a variety of intervals, such increases tend to come in "lumps."

The use of cost escalation devices also tends to dull incentives to efficiency and cost-cutting. For example, in the construction industry, builders offer bids and buyers tend to accept the lowest, thereby entering into fixed dollar contracts. If inflation drives up materials costs, the project price is nonetheless fixed and the producer must either take special pains to reduce other costs, increase efficiency, or accept a reduced rate of return. With escalation devices, on the other hand, all contracts tend to be on a cost-plus basis. Bids contain COL clauses. When materials prices increase, the producer is under less pressure to cut costs elsewhere since the final project price will also increase.

Does such a system lead to self-sustaining inflation? Once prices rise, for whatever reason, will not the automatic increases in wage and other contracts further raise the cost of living, thus requiring further COL adjustments, more inflation, still more adjustments, *ad infinitum*? For most of Israel's history, the answer is negative. Three factors, in particular, are responsible for this. First, the COL adjustment has a wage ceiling and does not cover total wages except for lower income workers. Second, not all wage earners are covered (although the great majority are). Lastly, the time lags in making adjustments reduce the likelihood of self-perpetuating inflation. In view of these considerations, it appears very unlikely that the escalation system was a major independent determinant of continuing inflation. This, of course, does not deny a "ripple" effect, i.e., price increases are transmitted by such adjustments. But these ripples will fade and the COL system by itself would only lead to a new equilibrium at higher prices rather than continually rising prices without any equilibrium being attained.

It is of interest to note that some of the problems related to the COL were apparently so significant that they caused both business and labor to agree to periodic waivers of the COL adjustment. One last point merits note. Leonard Woodcock has persuasively argued that cost-of-living protection clauses are anti-inflationary since basic wage demands will be moderated when employees know they are protected against erosion of their real wage by inflation. Israeli experience, however, suggests that this is not correct. As table 3 indicates, despite substantial COL wage boosts, basic wages nonetheless increased significantly and far in excess of productivity gains. In 1966, for example, the basic wage increased 13 percent at a time when the COL adjustment alone was 6.6 percent!

Conclusion

Inflation in the 1970's has been extremely severe, with price increases in 1972 of almost 13 percent, rising to 20 percent in 1973. The existence of growing excess demand forced the authorities to allow official prices to increase by 100 percent in 1974. During that year COL adjustments were demanded on four occasions, with the annual rate of inflation almost 40 percent. The repeatedly demonstrated conclusion of Israeli experience is that attacking inflation via direct and indirect controls, without eliminating surplus demand, cannot succeed. Further, a number of particular lessons stand out.

1. There is a clear, direct relationship between a rising money supply and rising price levels.

2. The Galbraithian notion of continuously maintained price controls permanently fixing prices is illusory. Even controlled prices cannot be held constant in the face of growing excess demand.

3. Price controls attack only the symptoms of inflation. They do not eliminate inflationary pressures; they simply redirect or temporarily suppress them.

4. Wage-price controls, when enforceable, are counterproductive in that they create numerous distortions which lead to inefficient use of resources, thereby causing further price/cost pressures.

5. In the face of a growing money supply or when a population is already accustomed to methods of avoidance, such controls are not enforceable.

6. Incomes policies and guidelines are ineffective. Curbs on incomes are only accepted after unemployment is substantial, at which juncture there is little need for such policies since existing slack in the economy by itself tends to moderate wage-price pressures.

7. Price level escalation devices minimize the income redistribution inequities of inflation, but reduce an economy's flexibility, reduce incentives to combat inflation, and augment balance of payments problems.

8. Cost-of-living clauses are no guarantee that wage demands will be limited to productivity gains.

9. Successful efforts at breaking the wage-price spiral necessitate restrictive monetary-fiscal policies. The longer the application of such policy is delayed, the more likely it is that recession will result.

FOOTNOTES

(1) M. Michaely, *Foreign Trade Regimes and Economic Development: Israel*, New York: National Bureau of Economic Research, 1975, p. 19.

(2) D. Patinkin, "Monetary and Price Developments in Israel: 1949-1953," originally published in 1956 in Jerusalem, and reprinted as Chapter 4 in D. Patinkin, *Studies in Monetary Economics*, New York: Harper & Row, 1972, p. 78.

(3) Ibid., p. 59.

(4) Nadav Halevi and Ruth Klinov-Malul, *The Economic Development of Israel*, New York: Frederick A. Praeger, 1968, p. 258.

(5) See D. Losman, "The Private versus Public Sector: Lessons of Israeli Development Experience," *Intercollegiate Review*, Winter-Spring, 1972, pp. 60-61.

(6) Yoram Weiss, "Price Control in Israel," *Economic Review* (Of the Bank of Israel), March, 1971, p. 73.

(7) Alex Rubner, *The Economy of Israel*, New York: Frederick A. Praeger, 1960, p. 57.

(8) *Ibid.*, p. 60.

(9) *Ibid.*

(10) Weiss, p. 77.

(11) Rubner, p. 63.

(12) *Ibid.*, p. 64.

(13) *Ibid.*

(14) *Ibid.*, p. 65.

(15) Weiss, p. 86.

(16) Carol Schwartz Greenwald, *Recession as a Policy Instrument*, Rutherford: Falreigh Dickinson Press, 1973, p. 7.

(17) Weiss, p. 86.

(18) Weiss, p. 75.

(19) Patinkin, p. 62.

(20) The failure was not due to sheer ineptness on the part of the monetary authorities, but instead to a complex of factors, including heavy capital inflows, conflicting policy objectives, relatively undeveloped capital markets, and political expediency, to name just a few influences.

(21) Carol S. Greenwald, "Price-Wage Controls: The Israeli Experience," *New England Economic Review*, Boston: Federal Reserve Bank of Boston, January-February, 1972, p. 3.

(22) *Ibid.*

(23) Abba Lerner and Haim Ben-Shadar, *The Economics of Efficiency and Growth*, Cambridge: Ballinger Publishing Company, 1975, p. 95.

(24) Klinov-Malul, p. 274.

(25) Greenwald, "Price-Wage Controls," p. 8.

(26) Greenwald, "Price-Wage Controls."

(27) Lerner and Ben-Shadar, p. 96.

(28) Rubner, p. 96.

(29) Weiss, p. 86.

(30) Rubner, p. 54.

(31) *Ibid.*, p. 53.

(32) Bank of Israel, *Annual Report 1966*, Jerusalem: Jerusalem Post Press, 1967, p. 252.

(33) *Ibid.*, p. 253.

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THE IRISH TANGLE

By Patrick Mahony

Dedicated to my dear friend, the late Dr. Eugene Zador, who wanted to know more about the Irish Question.

"Oh, I met with Napper Tandy and he took me by the hand. He asked me 'How is good old Ireland, tell me just how does she stand?' " So sings a famous Irish ballad about the man who himself was immortalized in what is perhaps the greatest Irish ballad, *The Wearing of the Green*, once used clandestinely as the Irish National Anthem. His question has been sounded often throughout the years and the many answers to it are as varied as the thousands of books written about Old Erin.

I have travelled extensively in my ancestral country, especially in the Republic, and I know of no other land where the consciousness of its history is reflected in its scenery. There is in it seemingly thoughts of the past in all the mournfulness which insistently obtrudes on the contemplation of mountain, lake, bog and even the beckoning escarpments. Even the climate, which is damp and depressing with an humidity laid on by the Gulf Stream, is piteously eloquent of Ireland's unhappy past and the persecution by her oppressors. Also, in such picturesque paradises as Glengariff or Killarney, where the scenery is rich with an almost exotic radiance, what with the plethora of tree-ferns, palms, bamboos and also Californian eucalyptus, one feels the brooding presence of the bitter human struggles that have been lived or fought there. For me the appeal of Irish scenery is mitigated by an overwhelming sense of tragedy which the lovely folk songs also portray. The mournful music and scenery itself seems to say that Ireland is a land of paradox and problems.

Climate has much to do with the life-mode of the southern provinces which are the home of caressing rains, leaden or very capricious skies with sudden squalls; or soft enfolding mists. The main characteristic of this climate is an equable, enervating humidity which is inviting to human inertia and it fits very congenially into the Irish spirit of lethargic fatalism. But it is this climate which has given the entire southern part a soil of extraordinary fertility, the best grazing land for cattle in the