Ninth Lecture

Stagflation

Differential accumulation (revision)
- Breadth and depth once more
- Internal vs. external depth

Internal depth
- Differential efficiency?
- Differential input prices?
- Running on empty: “meeting the average”

External depth
- “Inflation is always an everywhere a distributional phenomenon”
- Differential inflation
- Differential stagflation

History and theory
- “Price revolutions”
- The 20th century: the rise of organized power and stagflationary accumulation
- The centennial theory/reality fracture
- “Stagflation” and structure”, or “stagflation as restructuring”?
- Stagflation as an "anomaly": explaining stagflation with power
- Stagflation as the “normal”: explaining power with stagflation

The conventional creed
- The “classical dichotomy”
- Liquidity
- Excess demand, deficient supply

Keynesianism
- The Phillips Curve
- Lipsey’s “general theory”
- Samuelson and Solow’s modification: from wages to prices
- “We are all Keynesians”
- A “menu of choices” and Kalecki’s political “business cycle”
- Eating the cake and having it, too: power without redistribution

Monetarism
- Expectations: economic agents strike back
- Friedman and Phelps: Adaptive expectations
- How long is the “short run”?
- What is the “normal rate of unemployment”?
- Rational expectations: subjective and objective probabilities
- Muth, Sargent and Lucas: the collective economist as God
- Laissez faire, once more
- Expectations: from Keynes’ uncertainty to the New Classicists’ probability
- The “science” of the Phillips Curve, or “can theory ever be wrong?”
Supply shocks
- Stagflation: an upward sloping Phillips Curve?
- The postmodern "other": blame it on the oil sheiks, the weather and the workers
- Oil sheiks and the whether: do raw material prices cause inflation?
- Do workers cause inflation?
- “Wage push” or “profit push”?
- “Markup inflation” and “barriers to entry”

Inflation and redistribution
- Barking up the wrong tree
- Inflation as restructuring
- Where is politics?
- Redistribution: capitalists contra workers
- Redistribution: large vs. small firms
- Why stagflation – “return” and “risk”

Regimes of differential accumulation
- The pendulum of breadth and depth
Differential Earnings

\[ earnings_D = employment_D \times earnings\ per\ employees_D \]

Table 1

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<tr>
<th>Breadth</th>
<th>External</th>
<th>Internal</th>
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<td>Green-field</td>
<td>Mergers &amp; Acquisitions</td>
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<td>Cost-cutting</td>
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FIGURE 1 U.S. Accumulation: Internal vs. External Breadth

* Based on splicing of separate series.

“Running on empty”
“How do you build a company, when your buyers are infinitely knowledgeable and where your suppliers maintain a level playing field for your competitors? What remains your competitive differentiator or your source of value or whatever academic cliché you want to wrap around it?”


**FIGURE 2**  Consumer Prices in the U.K.

FIGURE 3  The Seeds of Differential Stagflation

FIGURE 4  Industrialized Countries: Long-Term Inflation and Growth

NOTE: Series are shown as 20-year moving averages. The trend line represents an OLS regression for the 1968–90 period.

SOURCE: IMF International Financial Statistics through Global Insight (series codes: L66@C110 for industrial production; L64@C110 for the consumer price index).
FIGURE 5  United States: Long-Term Inflation and Growth

* Ratio of GDP in current prices to GDP in constant prices.

NOTE: Series are shown as 20-year moving averages. The smooth curve running through the observations is drawn freehand for illustration purposes.

SOURCE: Historical data till 1928 are from The Bank Credit Analyst Research Group. From 1929 onward, data are from the U.S. Department of Commerce through Global Insight (series codes: GDP for GDP; GDP96 for GDP in constant prices).
FIGURE 6  Israel: Long-Term Inflation and Growth

NOTE: Series are shown as 5-year moving averages.

The neutrality of money

“There cannot, in short, be intrinsically a more insignificant thing, in the economy of society, than money.”

John Stuart Mill

“Money is a veil.”

Irving Fisher

“Money is neutral, a veil with no consequences for real economic magnitudes.”

Franco Modigliani

“Inflation is always an everywhere a monetary phenomenon.”

Milton Friedman
The quantity theory of money

\[ P = \text{prices, } T = \text{transactions, } M = \text{money, } V = \text{velocity, } Q = \text{output; lower case variables represent rates of change} \]

1. \( P \times T \equiv M \times V \)
2. \( P \equiv M \times V / T \)
3. \( p \approx m + v - t \)
4. \( p \approx m - t \quad ; \quad v = 0 \)
5. \( p \approx m - q \quad ; \quad t = q \)

**FIGURE 7** United States: Liquidity and inflation

NOTE: Annual data smoothed as 5-year moving averages

SOURCE: IMF.
FIGURE 8  The Phillips Curve

From wage inflation to price inflation

$W$ is the wage rate, $U$ is the rate of unemployment, $P$ is the price level, $Q$ is output per worker (labour productivity), $K$ is the markup, and lower-case variables denote corresponding rates of change.

1. $w = f(U)$
2. $P = \left(1 + K\right) \frac{W}{Q}$
3. $p = (1 + K) + w - q$

If the markup is fixed, we have,

4. $w = p + q$

Substituting into equation 1:

5. $p = f(U) - q$

Cost push and the end of perfect competition

“Some holders of this view [cost push] attribute the push to wage boosts engineered unilaterally by strong unions. But others give as much or more weight to the co-operative action of all sellers –organized and unorganized labor, semimonopolistic managements, oligopolistic sellers in imperfect commodity markets – who raise prices and costs in an attempt by each to maintain or raise his share of national income, and who among themselves, by trying to get more than 100 per cent of the available output, create ‘seller’s inflation . . . to explain possible cost-push inflation, it would seem more economical from the very beginning to recognize that imperfect competition is the essence of the problem and drop the perfect competition assumptions.”

"Expectations Augmented Phillips Curve"

\[ p_t = f_1(U_t) + p_t^e \]

\[ p_t^e = f_2(p_t) \]
Rational Expectations

“. . . expectations of firms (or, more generally, the subjective probability distribution of outcomes) tend to be distributed, for the same information set, about the prediction of the theory (or the ‘objective’ probability distributions of outcomes).”


“. . . expectations of inflation are assumed to be endogenous to the system in a very particular way: they are assumed to be ‘rational’ in Muth’s sense – which is to say that the public’s expectations are not systematically worse that the predictions of economic models. This amounts to supposing that the public expectations depend, in the proper way, on the things that economic theory says they ought to.”


\[
\begin{align*}
p_t^e &= E(p_t \mid I_{t-1}) \\
p_t &= E(p_t \mid I_{t-1}) + u_t \\
p_t - p_t^e &= u_t
\end{align*}
\]
FIGURE 9  Public Sector Indicators (% of World GDP)

NOTE: Series are shown as 12-months moving averages.

Original Phillips Curve?

Adaptive Expectations?

Rational Expectations?
Supply Shocks: The Usual Suspects

“A clear and central villain of the piece is the historically unprecedented rise in commodity prices (mainly food and oil) in 1973-74 and again in 1979-80 that not coincidentally accompanied the two great burst of stagflation.

“...one of the variables that set the stage for the 1970s stagflation was the rise in union power and militancy at the end of the 1960s. ... A real wage boom resulted, which started a squeeze on profits even before 1973. ... It strikes us as misguided to consider the labor market as a perfectly competitive bourse when in almost every OECD economy much of the labor force is unionized and governments play an enormous role in affecting labour compensation.”


Supply Shocks: The Cruel Dilemmas

“The limited capability of policy to influence supply poses a particularly vexing problem in a stagflationary world since any stabilization policy adopted in response to stagflation is bound to aggravate one of the problems [inflation or unemployment] even as it helps cure the other. Such is the policy dilemma of stagflation.”

FIGURE 10  World prices

SOURCE: IMF
FIGURE 11  Inflation and the Wage Share in the United States

SOURCE: U.S. Bureau of Economic Analysis
FIGURE 12  Inflation and the Wage Share in Israel

SOURCE: Bank of Israel. Israel Central Bureau of Statistics
Wage push or profit push?

Price = Unit Wage + Unit Profit

\[ P = W + \Pi \]

\[ P = (1+K) \times W \quad \text{where} \quad K = \frac{\Pi}{W} \]

- “Wage push” inflation can occur only if K is fixed.
- If K is fixed, the rates of change of profit and of wages are the same.
- If the two rates of change are the same, “wage push” inflation must also be “profit push” inflation.
FIGURE 13 U.S. Inflation and Capital-Labour Redistribution

* Corporate earnings per share are for the S&P 500 Index (ratio of price to price/earnings). The wage rate is the average hourly earning in the private sector.

NOTE: Series are smoothed as 3-year moving averages.

FIGURE 14  Differential Depth and Inflation in the U.S.A.

NOTE: The economy's profit per employee is computed by dividing corporate profit with inventory valuation adjustment and capital consumption allowance, less taxes, by the number of non-agricultural employees. Fortune's profit per employee is computed by dividing net profit by the number of employees.

* Series are measured as 12 month % change and shown as 3 year moving averages.
** Stagflation Index = (standardized inflation − standardized growth) / 2.
SOURCE: IMF (codes: L84_A_C110 for CPI; L86_NI_A_C110 for Industrial Production).

FIGURE 15  Stagflation Index
FIGURE 16  Amalgamation and Stagflation in the U.S.A.

* Computed as the average of: (1) the standardized deviations from average of the rate of unemployment, and (2) the standardized deviation from the average rate of inflation of the GDP implicit price deflator.
** Mergers and acquisitions as a percent of gross fixed capital formation.

NOTE: Series are shown as 5-year moving averages (the first four observations in each series cover data to that point only).