

## 失業とインフレーション

経済変動の観察をとおして、失業率と貨幣賃金率の上昇率、または物価上昇率のあいだに負の相関関係があることが分かる。

### I. フィリップス (1958) の研究

#### A. 観察事実： イギリス (United Kingdom), 1861 年から 1957 年

##### 1. 貨幣賃金率の上昇率と失業率

$$\log_{10}(z + 0.900) = 0.984 - 1.394 \log_{10} u$$

あるいは

$$z + 0.900 = 9.638u^{-1.394}$$

$z, u$ : 百分率 (%) で表した貨幣賃金率の上昇率, 失業率

a. 負の相関関係:  $z = \phi(u), \phi'(u) < 0$

b. 貨幣賃金率の上昇率がゼロとなる失業率:  $\phi(\bar{u}) = 0$

$$\log_{10}(0.900) = 0.984 - 1.394 \log_{10} \bar{u}$$

$$\bar{u} = 5.5$$

c. 物価上昇率との関係

$$\text{物価上昇率} = \text{貨幣賃金率の上昇率} - \text{労働生産性の上昇率}$$

##### 2. 長期の関係

a. 関係の確定: 1861 年から 1913 年まで

b. 関係の確認: 1914 年以降

### B. 労働の需要供給調整の理論

#### 1. 貨幣賃金率の上昇率

a. 超過需要率が大きいほど賃金率の上昇は速い。

$$z = g(x), \quad g(0) = 0, \quad g'(x) > 0, \quad x = \frac{N - L}{L}$$

b. 非線形: 上昇時 (超過需要) は速く, 下降時 (超過供給) は遅い。

c. 貨幣賃金率の上昇率は, 失業率の時間変化率の影響を受ける。

・失業率が減少する局面では, 貨幣賃金率の上昇率は高い。

・失業率が増加する局面では, 貨幣賃金率の上昇率は低い。

## 2. 失業率と超過需要率の関係

ベヴァリッジ曲線：  $v = B(u)$ ,  $B'(u) < 0$ ,  $B(\bar{u}) = \bar{u}$

$$x = \frac{N - L}{L} = \frac{1 - u}{1 - v} \cdot v - u = \frac{1 - u}{1 - B(u)} \cdot B(u) - u$$

この関係を  $x = f(u)$  とすると

$$f'(u) < 0, \quad f(\bar{u}) = 0$$

## II. その他の研究

## A. アーヴィング・フィッシャー (1926)

## 1. アメリカ合衆国における物価と雇用, 1915–1923

a. 卸売物価上昇率と雇用量のあいだの正の相関関係 (相関係数: 0.900, 取引数量指数とのあいだの相関係数: 0.941.)

b. 物価上昇の雇用量への影響の時間の遅れ

・ラグの構造

$$y_t = a + b\pi_t^*, \quad \pi_t^* = \int_0^\infty \pi(t - \theta)f(\theta)d\theta$$

$$\log_e \theta \sim N(\mu, \sigma^2)$$

$\theta$ : 物価上昇が起こってから経過月数

$f(\theta)$ : その p.d.f. ( $\mu = \log_e 9.5 = 2.2513$ ,  $\sigma^2 = 0.9056$ )

・影響が出尽くすまでに要する時間

## 物価上昇に対する雇用量のインパルス応答

経過した時間 (月)	1	2	3	4	5	...	9	10
雇用量の応答 (%)	2.5	5.2	6.5	6.9	6.6	...	4.7	4.2

5ヵ月で 25%, 9.5ヵ月で 50%, 18ヵ月で 75%

## 2. 物価変動による企業収益の変化

a. 費用要因の変化の遅れ (利子, 賃貸料, 雇用報酬等)

b. 短期的関係

In fact, during such periods of rapid inflation, when profits increase because prices for receipts rise faster than expenses, we nickname the profit-taker the “profiteer.” Employment is then stimulated — for a time at least.

Fisher (1973), p. 498.

We have interpreted the high correlation found as indicating a causal relationship. It may also be interpreted as an anticipatory relationship. It may be that a rise in the price level indicates an expectation of better business while a fall indicates an expectation of depression. Probably there is some truth in this view, although it is diminished greatly by the fact that a *general* rise or fall of prices is less apt to be anticipatory than the rise or fall of an individual price relatively to the general level.

Fisher (1925), p. 194.

## B. サミュエルソンとソロウ

アメリカ合衆国，19 世紀末 — 1950 年代

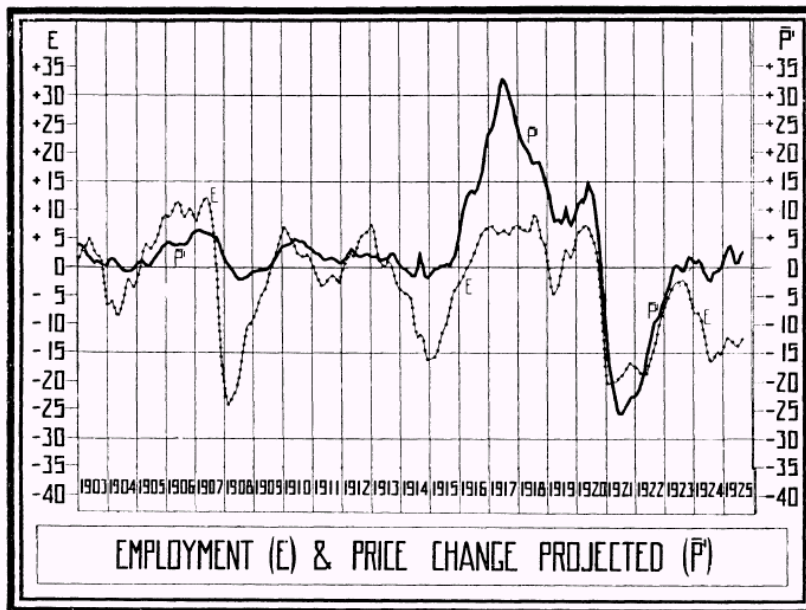
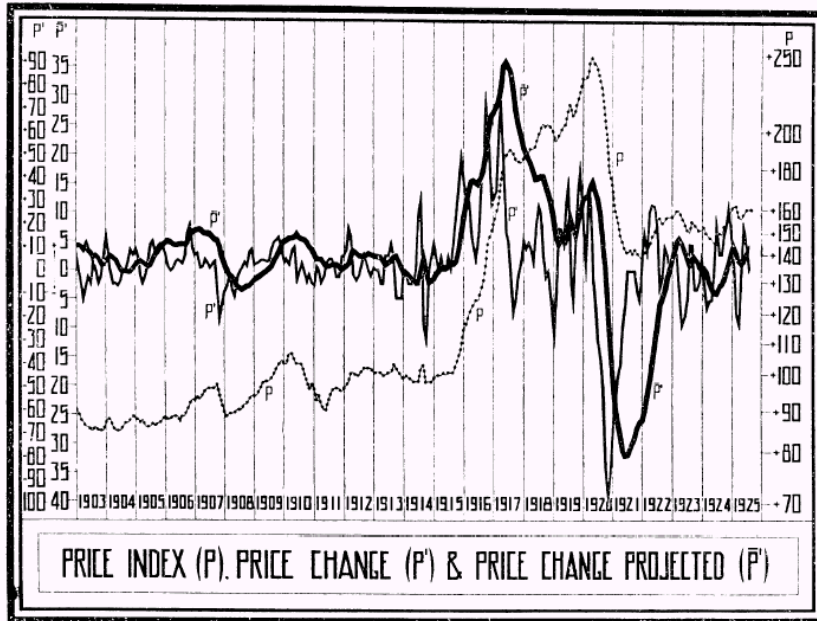
失業率	物価上昇率
3.0	4.5
5.5	0.0

労働生産性の上昇率 = 2.5 %

## 参考文献

- Phillips, Alban W. (1958) “The Relation between Unemployment and the Rate of Change of Money Wage Rates in the United Kingdom, 1861–1957.” *Economica* 25: 283–299.
- Lipsey, Richard G. (1960) “The Relation between Unemployment and the Rate of Change of Money Wage Rates in the United Kingdom, 1862–1957: A Further Analysis.” *Economica* 27: 1–31.
- Fisher, Irving (1973) “I Discovered the Phillips Curve.” *Journal of Political Economy* 81: 496–502. Lost and Found. Reprinted from “A Statistical Relation between Unemployment and Price Changes,” *Labour Review* 13 (1926): 785–792.
- Fisher, Irving (1925) “Our Unstable Dollar and the So-called Business Cycle.” *Journal of the American Statistical Association* 20: 179–202.
- Samuelson, Paul A. and Robert M. Solow (1960) “Analytical Aspects of Anti-Inflation Policy.” *American Economic Review* 50, Papers and Proceedings: 177–194.

Irving Fisher (1973), pp. 500 and 502.



**Samuelson and Solow (1960), pp. 188 and 192.**

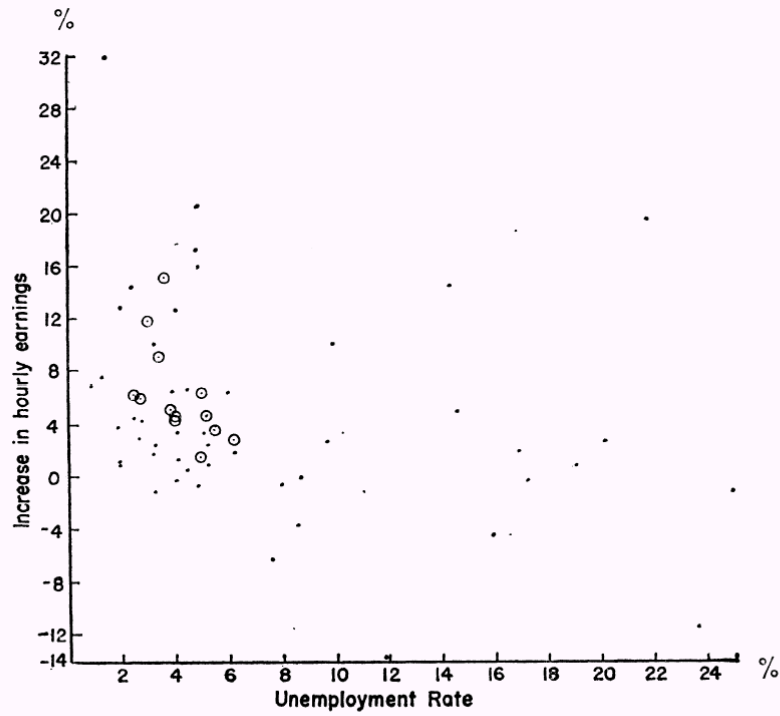


FIGURE 1  
PHILLIPS SCATTER DIAGRAM FOR U.S.  
(The circled points are for recent years.)

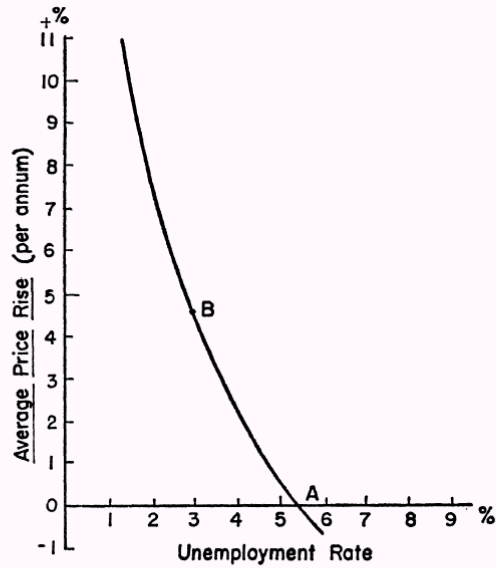
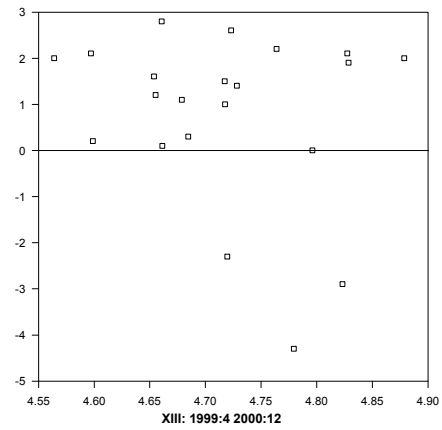
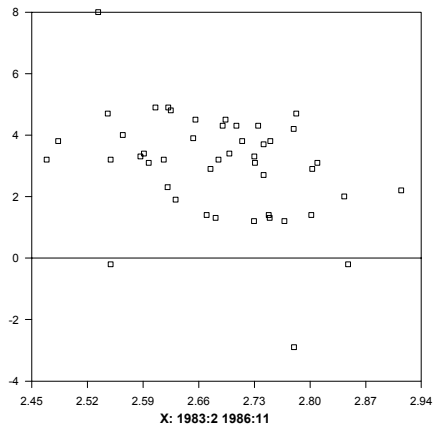
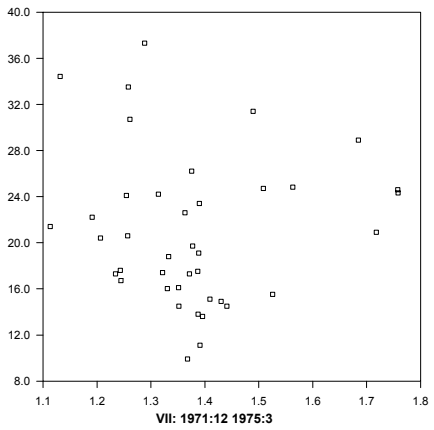
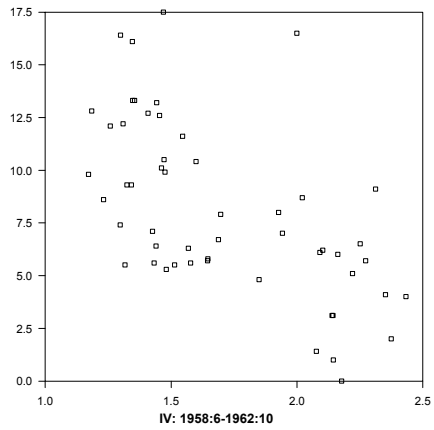
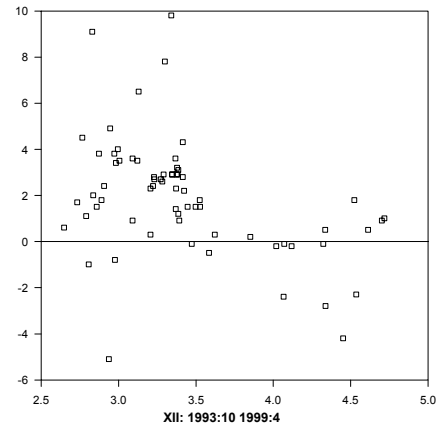
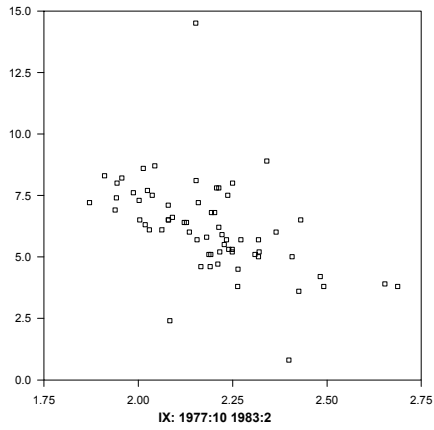
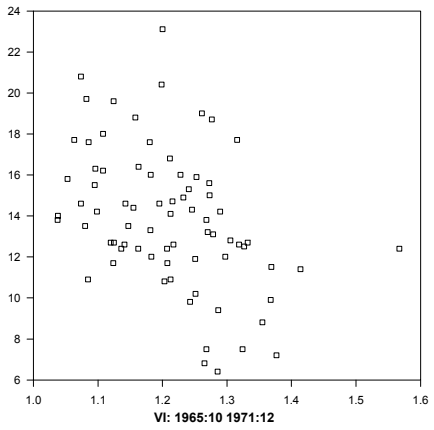
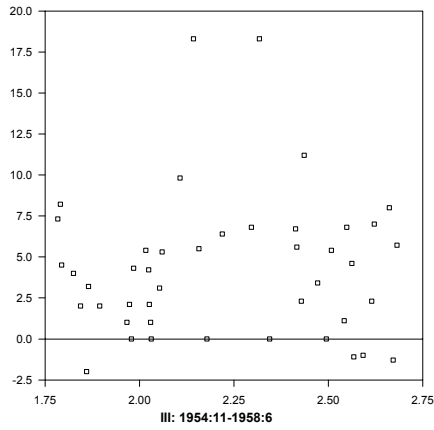
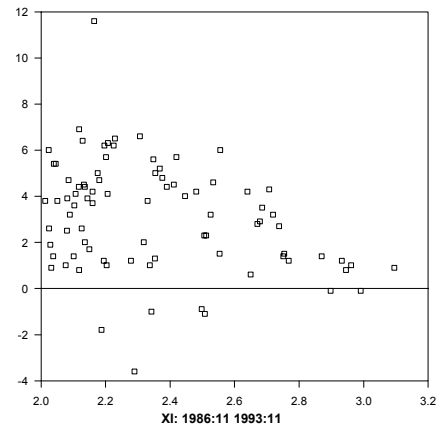
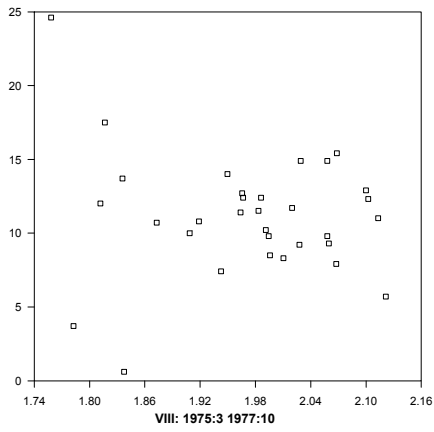
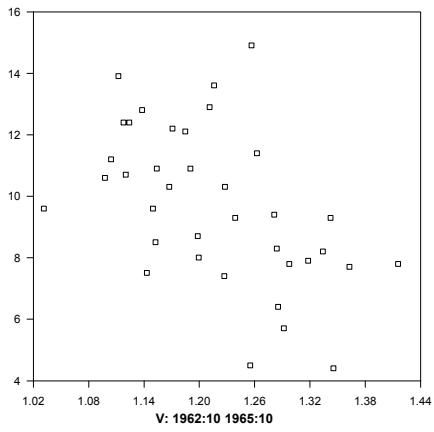
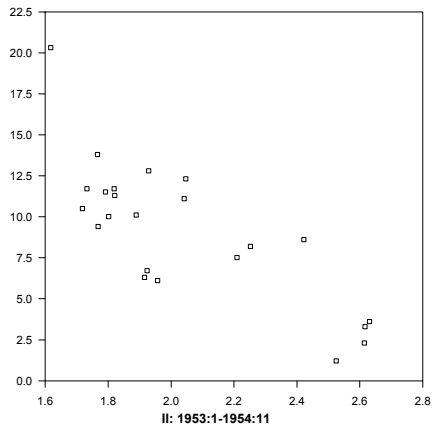


FIGURE 2  
MODIFIED PHILLIPS CURVE FOR U.S.  
This shows the menu of choice between different degrees of unemployment and price stability,  
as roughly estimated from last twenty-five years of American data.

# Unemployment and Inflation (Wages in Manufacturing)



# Unemployment and Inflation (CPI)

