A Comment on "Implicit Contracts and
Underemployment Equilibrium

John Bryant

April 1978

Staff Report #: 35

A Comment on "Implicit Contracts and Underemployment Equilibrium"

by John Bryant

In his paper, "Implicit Contracts and Underemployment Equilibrium"

Costas Azariadis discusses state contingent contracts. Before signing a

contract, and before observing which state of the world will obtain, a

worker chooses between firms based on the state contingent wage and

employment contracts they offer. After choosing a firm and observing

the realization of the state, the worker cannot then search elsewhere.

This model is an attempt to capture the effects of limited mobility of

labor by having no mobility in the short run and complete mobility in

the long run.

The main result of the paper is the discovery that the market

with risk averse workers may in equilibrium produce contracts with

unemployment in some states. On the face of it this result seems

paradoxical. Why would risk averse workers choose a contract that gives

them positive probability of zero labor income in some states?

A condition (condition 11) is derived under which a state of

the world is an unemployment state. On the surface of it this condition

appears mysterious. However, this condition can be given a very simple

interpretation which explains the apparent paradox. The interpretation

is as follows. Once the workers have jumped to a firm they cannot move,

nor can others join them. Suppose that a state is an unemployment state

for a given firm's contract and labor force. Further, suppose that at

this unemployment state the contract with the firm is broken and an

auction market imposed on the firm and its workers. Then condition 11

says we will find that each of these workers is indifferent to working

for the firm at the market clearing wage, and some are working and some are not. In other words, the workers have a "reservation wage" determined by their labor-leisure tradeoff. If the state is an unemployment one, then the auction market wage would equal this "reservation wage" with some workers idle.

Under the auction market in some states some of the workers are idle by choice. Lacking a complete market of contingent claims and being risk averse, they prefer a contract which provides a (higher) constant, state independent wage under which in these same states they may be unemployed by layoff.

It is not surprising that with market clearing wage equal to "reservation wage" people are not working! The contribution of this paper is to show why the going wage will at the same time exceed the market clearing wage, so that workers will meet the words of Keynes' definition of involuntary unemployment without meeting its spirit. Stated somewhat differently, this paper explains why quits and layoffs are only superficially different. Given this interpretation it does not seem that labor immobility is important to the issue.

Let us turn to a proof that this interpretation is correct. Azariadis's notation is used. Also, we use linear approximation.

Proof: Define the "reservation wage" $\underline{w}$ such that $u(\underline{w}) = V[\alpha + \underline{w}, 0] = V[0,1] = K = $ utility of not working. Condition (11) is:

$$p(s)f'(m_f^*) < w_f^* - \frac{u(w_f^*) - u(\underline{w})}{u'(w_f^*)} = \underline{w}.$$

This is shown in Figure 1 where L^D is labor demanded ($f'=w/p$) and L^S is labor supplied ($= 0$ if $w < \underline{w}$, $= m_f^*$ otherwise). Due to the linear approximation, this condition is necessary but not quite sufficient for s to be an unemployment state.

Figure 1
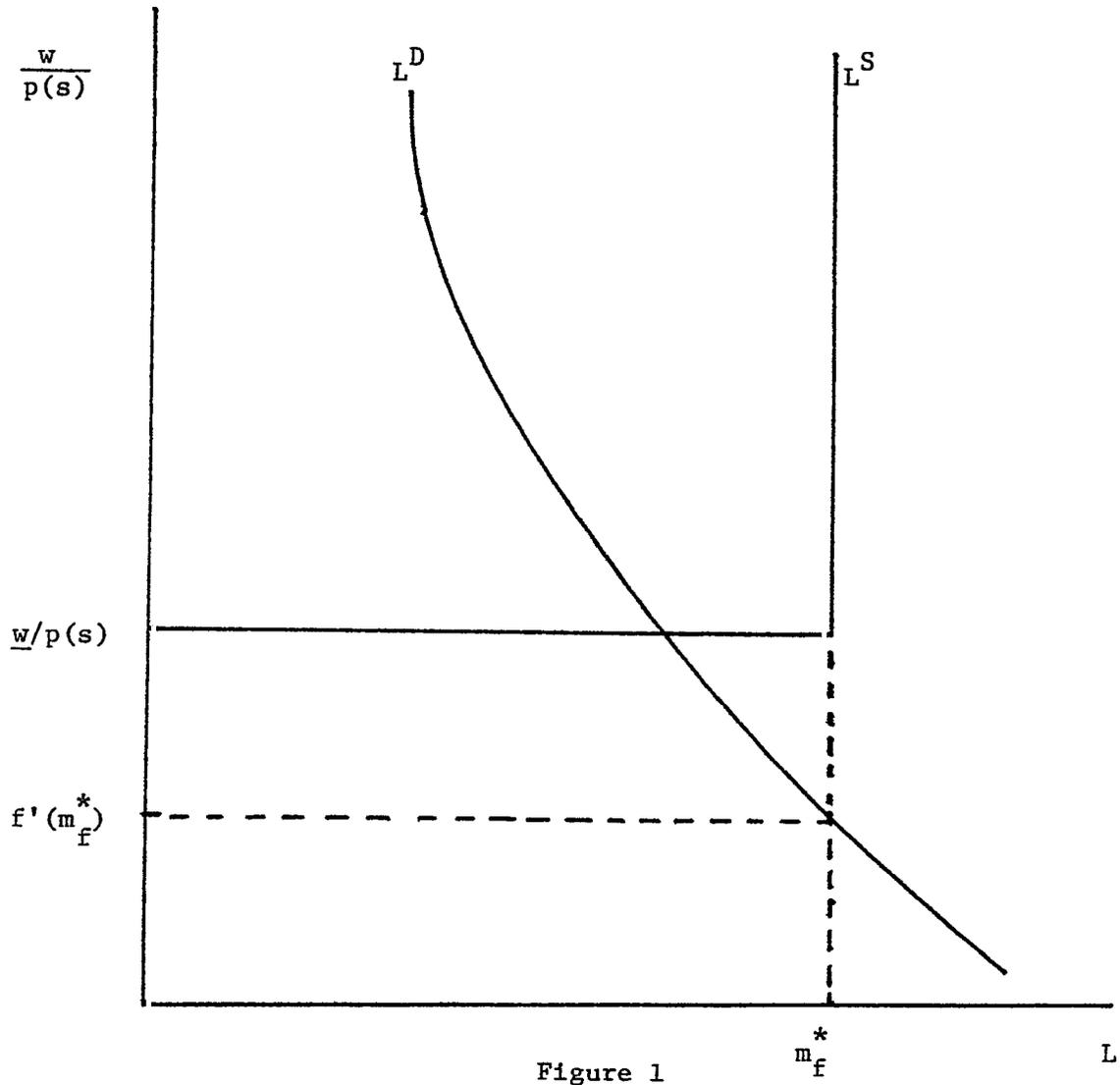
References

Azariadis, Costas, "Implicit Contracts and Underemployment Equilibrium," _Journal of Political Economy_, (December 1975), 1183-1202.