MODELING MIGRATION-INDUCED UNEMPLOYMENT - PASCAL MICHAILLAT

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LINKAGE TO UNEMPLOYMENT COURSE

- Matching Function

$$f(\theta) = \frac{h(U,V)}{U} = h(1,\theta) = \mu\theta^{(1-\eta)}$$

$$q(\theta) = \frac{h(U,V)}{V} = h(\theta^{-1},1) = \mu\theta^{-\eta}$$

- Labor Market Flow

$$\dot{L}(t) = f(\theta)U(t) - \lambda L(t)$$

$$U(t) = H - L(t)$$

$$\dot{L}(t) = f(\theta)H - [\lambda + f(\theta)]L(t)$$

λ is job destruction rate

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- Recruiter-Producer Ratio with $\tau(\theta) = R/P$

$$\tau(\theta) = \frac{\lambda_k}{q(\theta) - \lambda_k}$$

- Labor Demand and Supply

$$L^d(\theta, a) = L^s(\theta, H)$$

Labor demand is strictly decreasing in tightness while labor supply is strictly increasing in tightness. We define tightness as $\theta(H)$

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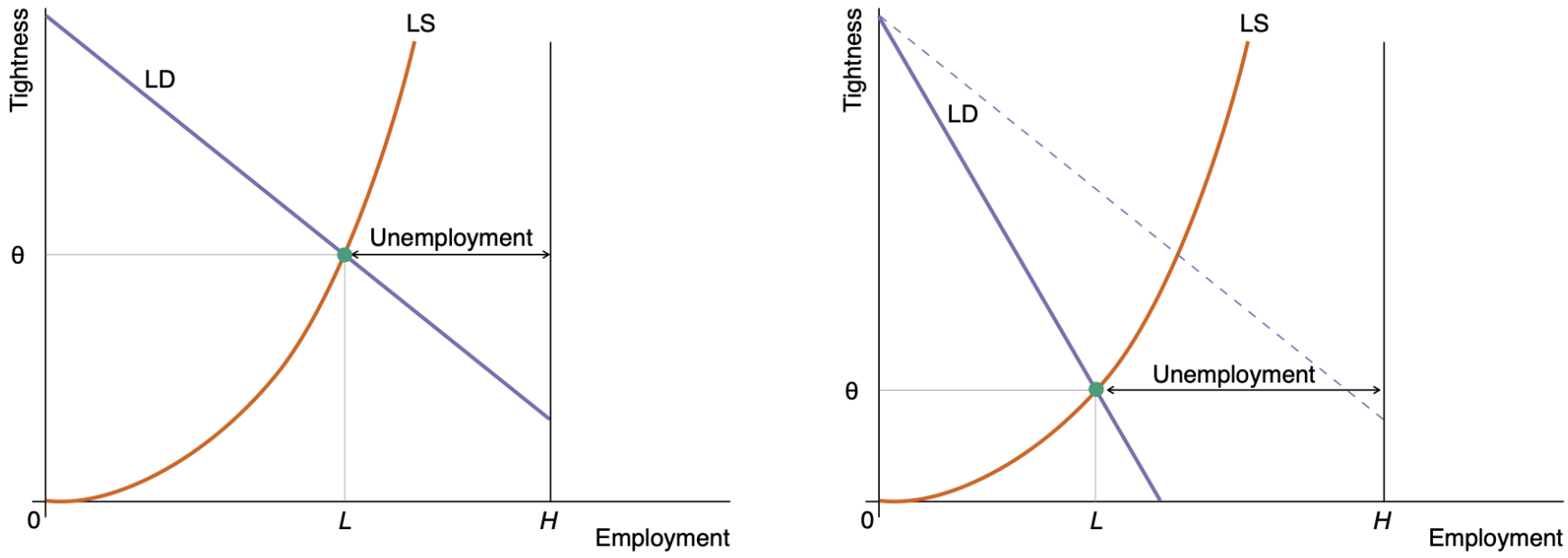


A. Labor market in normal times

B. Labor market in bad times

FIGURE 1. Solution of the model

MAIN IDEA

This paper develops a general matching model that allows for the possibility that the wages and the unemployment rate of local workers might be affected by new comers (immigration)

MAIN FINDING

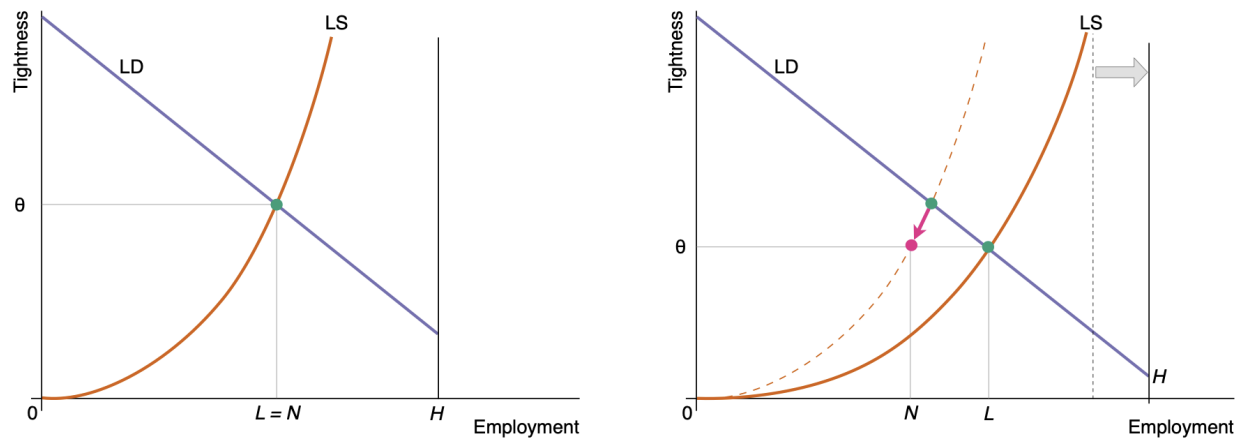
- In-migration leads to decrease in labor-market tightness, which causes a decrease in the job-finding rate of local workers, an increase in their unemployment rate, and a decrease in their employment rate
- Incorporating the wage, all the effects are weaker.
- From the firm side: in-migration leads to an increase in employment, a reduction in the recruiter- producer ratio, and an increase in real profits. These results hold whether wages respond to migration or not.
- Labor-market conditions deteriorate when productivity decreases: the elasticity of the employment rate with respect to the labor force becomes more negative.

GRAPHS (MODEL WITH IN-MIGRATION)

$$dlnL^s = \epsilon^s_\theta dln\theta + \epsilon^s_H dlnH$$

$$dlnL^d = \epsilon^d_\theta dln\theta$$

$$\epsilon^\theta_H = \frac{-1}{\epsilon^s_\theta - \epsilon^d_\theta}$$

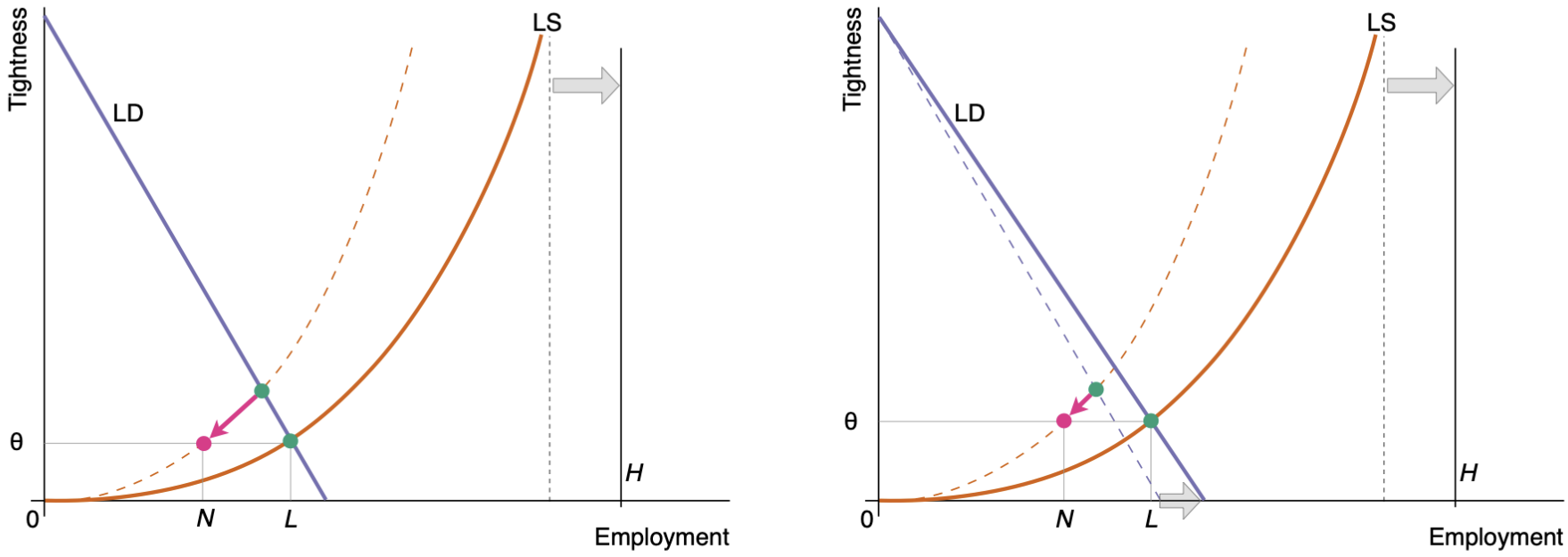


A. Initial situation

B. After in-migration

FIGURE 2. In-migration reduces the job-finding rate of local workers, and therefore increases their unemployment rate

GRAPHS

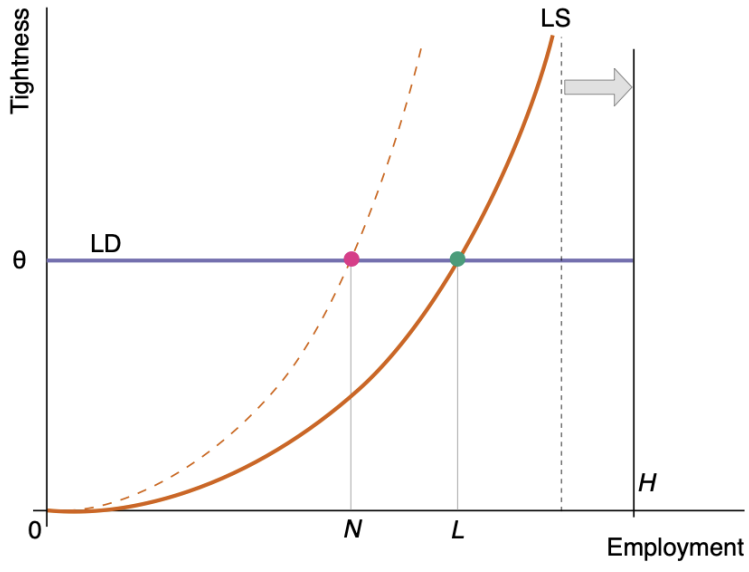


A. Drop in tightness when wages do not fall

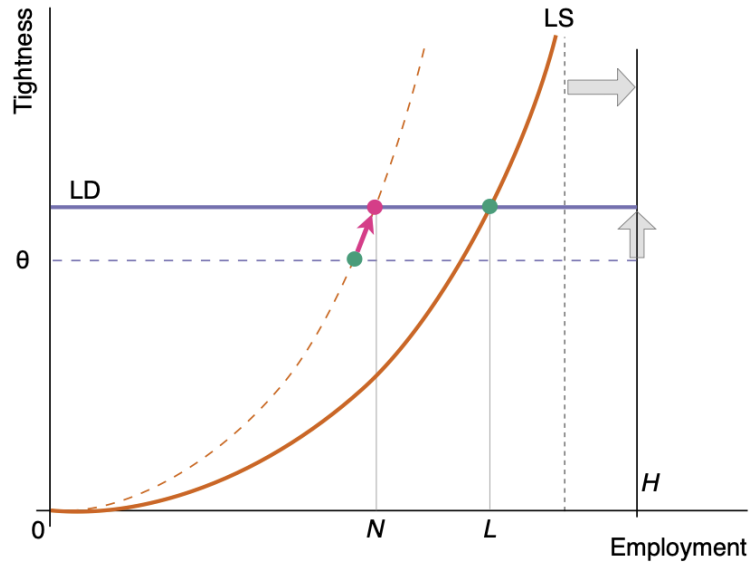
B. Drop in tightness when wages fall

FIGURE 4. Joint response of labor-market tightness and wages to in-migration

GRAPHS



C. In-migration in DMP model if wages are constant



D. In-migration in DMP model if wages fall

FIGURE 5. Impact of in-migration in a DMP model

POSITION

1. Traditional models cannot fully capture the impact of newly arrived workers, i.g. DMP model assumed a perfect elastic labor demand, all the effects from new comers will be absorbed in labor market without showing impact on local workers.
2. This paper also bridges downward sloping labor demand and wage rigidity, i.g. the model offers the perspective that immigration may adversely affect local workers even when it doesn't affect local wages, because it increases the local unemployment and adversely affects local job seekers.

CONCLUSION

- COVID recovery: the US labor market has been incredibly tight, give that the decision to tighten monetary policy is slow, and delaying process to the labor market, the immigration would have rapidly cooled the labor market (lower the labor market tightness)
- Having more in-migration in good times lower the tightness just as when the tightness is inefficiently high, which improve the welfare.
- To improve welfare, policy should bring labor-market tightness closer to its efficient level. Increasing the public employment, the tightness can be increased (due to more vacancies in private sector), increasing in-migration, tightness can be lowered.
- Public employment is desired in bad times while more in-migration is desirable in good times.