Certainly! The Mortensen-Pissarides (MP) model is a well-known framework in labor economics that incorporates frictions in the labor market. Here's an example of incorporating product price into a MP model with the government, consumers, and firms:

1. Variables: a) Product Price (P): The price of the final goods or services produced by firms. b) Wage Rate (W): The wage paid to workers for their labor. c) Labor Supply (Ls): The number of individuals seeking employment. d) Labor Demand (Ld): The number of job vacancies offered by firms. e) Unemployment Rate (U): The percentage of the labor force without employment. f) Job Finding Rate (F): The rate at which unemployed individuals find jobs. g) Job Separation Rate (S): The rate at which employed individuals lose their jobs.
2. Relationships: a) Wage Determination: The wage rate (W) is determined by the bargaining process between firms and workers, considering the level of product prices (P), labor productivity, and other factors affecting wage negotiations.

b) Labor Market Dynamics: The labor supply (Ls) and labor demand (Ld) are influenced by the unemployment rate (U), job finding rate (F), and job separation rate (S). The higher the unemployment rate, the lower the job finding rate, and the higher the job separation rate, the greater the frictions in the labor market.

c) Production and Price: The level of product prices (P) is influenced by the interaction between labor costs (represented by wages) and firm productivity. Higher wages can lead to higher production costs and, in turn, higher product prices.

1. Model Equations: a) Wage Determination: W = f(P, productivity, bargaining power) b) Labor Market Dynamics: U = g(Ls, Ld, F, S) c) Production and Price: P = h(W, productivity, other cost factors)
2. Government Intervention: Incorporate government policies that influence the labor market and product prices. For example, the government may implement minimum wage laws, provide subsidies or tax incentives to firms, or regulate labor market practices. These policies can affect wages, labor supply, labor demand, and ultimately product prices.
3. Solution and Analysis: Solve the model equations to determine the equilibrium wage rate (W\*), unemployment rate (U\*), and product prices (P\*). Analyze the impact of changes in labor supply, labor demand, job finding rate, job separation rate, or government policies on the equilibrium outcomes.

For example, an increase in labor supply may lead to a higher unemployment rate and put downward pressure on wages. This, in turn, could affect production costs and product prices. Government policies, such as minimum wage increases, may directly influence the wage rate and have subsequent effects on employment levels and product prices.

The MP model provides a framework to analyze labor market dynamics, frictions, and their interactions with the broader economy. Incorporating product prices into the model allows for a more comprehensive understanding of how labor market conditions and wage dynamics can influence the cost of goods or services produced by firms.