

$$c(t) = \text{CPI}(t) - \text{CPI}(t - 1)$$

$$c(t) = 0.2461 c(t - 1) + 0.4142 c(t - 2) + 0.176 c(t - 3) + \varepsilon$$

$$- \text{CPI}(t - 1) = 0.2461 (\text{CPI}(t - 1) - \text{CPI}(t - 2)) + 0.4142 (\text{CPI}(t - 2) - \text{CPI}(t - 3)) + 0.176 (\text{CPI}(t - 3) - \text{CPI}(t - 4)) + \varepsilon$$

$$w(t) = \text{wage}(t) - \text{wage}(t - 1)$$

$$w(t) = -0.5826 w(t - 1) + 0.1245 c(t) + \varepsilon$$

$$\text{ey}(t) = \text{equity_yield}(t) - \text{equity_yield}(t - 1)$$

$$\text{ey}(t) = -0.4930 \text{ey}(t - 1) - 0.0677 c(t) + \varepsilon$$

$$\text{ed}(t) = \text{equity_dividend}(t) - \text{equity_dividend}(t - 1)$$

$$\text{ed}(t) = 0.3819 \text{ed}(t - 1) - 0.0034 c(t) - 0.0147 \text{ey}(t) + \varepsilon$$

$$\text{lt}(t) = \text{long_term_bond_yield}(t) - \text{long_term_bond_yield}(t - 3)$$

$$\text{lt}(t) = 0.7557 \text{lt}(t - 1) + 0.0521 c(t) - 0.0103 \text{ey}(t) + \varepsilon$$

$$\text{st}(t) = \text{short_term_bond_yield}(t) - \text{short_term_bond_yield}(t - 1)$$

$$\text{st}(t) = -0.0618 \text{st}(t - 1) + 0.1538 \text{lt}(t) + 0.0067 \text{ey}(t) + \varepsilon$$

```
In[*]:= data = {{0.000277985, 0.00764099, 0.022943729, -0.093705161, 0.020324326, -1.00 E - 04},
               {0.002324318, 0.009642403, 0.021237475, 0.098638869, 0.022331429, 0.001600213},
               {-0.000508316, 0.001741042, 0.02264259, -0.059106928, 0.016592891, 0.002100368},
               {0.008435609, 0.007478544, 0.021638903, 0.06115197, 0.016602919, 0.002600563}};
```

```
In[*]:= Solve[
  CPI[t] - CPI[t - 1] == 0.2461 (CPI[t - 1] - CPI[t - 2]) + 0.4142 (CPI[t - 2] - CPI[t - 3]) +
  0.176 (CPI[t - 3] - CPI[t - 4]), CPI[t]] // Flatten // Simplify
```

```
Out[*]:= {CPI(t) -> -0.176 CPI(t - 4) - 0.2382 CPI(t - 3) + 0.1681 CPI(t - 2) + 1.2461 CPI(t - 1)}
```

```
In[*]:= Solve[
  wage[t] - wage[t - 2] == -0.5826 (wage[t - 1] - wage[t - 2]) + 0.1245 (CPI[t] - CPI[t - 1]),
  wage[t]] // Flatten // Simplify
```

```
Out[*]:= {wage(t) -> -0.1245 CPI(t - 1) + 0.1245 CPI(t) + 1.5826 wage(t - 2) - 0.5826 wage(t - 1)}
```

```
In[*]:= Solve[equityYield[t] - equityYield[t - 1] ==
  -0.4930 (equityYield[t - 1] - equityYield[t - 2]) - 0.0677 (CPI[t] - CPI[t - 1]),
  equityYield[t]] // Flatten // Simplify
```

```
Out[*]:= {equityYield(t) -> 0.0677 CPI(t - 1) - 0.0677 CPI(t) + 0.493 equityYield(t - 2) + 0.507 equityYield(t - 1)}
```

```
In[*]:= Solve[equityDividend[t] - equityDividend[t - 1] ==
  0.3819 (equityDividend[t - 1] - equityDividend[t - 2]) - 0.0034 CPI[t] -
  CPI[t - 1] - 0.0147 (equityYield[t] - equityYield[t - 1]),
  equityDividend[t]] // Flatten // Simplify
```

```
Out[*]:= {equityDividend(t) -> -1. CPI(t - 1) - 0.0034 CPI(t) - 0.3819 equityDividend(t - 2) +
  1.3819 equityDividend(t - 1) + 0.0147 equityYield(t - 1) - 0.0147 equityYield(t)}
```

```
In[*]:= Solve[longTerm[t] - longTerm[t - 3] ==  
  0.7557 (longTerm[t - 1] - longTerm[t - 4]) + 0.0521 (CPI[t] - CPI[t - 1]) -  
  0.0103 (equityYield[t] - equityYield[t - 1]), longTerm[t]] // Flatten // Simplify
```

```
Out[*]:= {longTerm(t) → -0.0521 CPI(t - 1) + 0.0521 CPI(t) + 0.0103 equityYield(t - 1) -  
  0.0103 equityYield(t) - 0.7557 longTerm(t - 4) + 1. longTerm(t - 3) + 0.7557 longTerm(t - 1)}
```

```
In[*]:= Solve[shortTerm[t] - shortTerm[t - 1] ==  
  -0.0618 (shortTerm[t - 1] - shortTerm[t - 2]) + 0.1538 (longTerm[t] - longTerm[t - 3]) +  
  0.0067 (equityYield[t] - equityYield[t - 1]), shortTerm[t]] // Flatten // Simplify
```

```
Out[*]:= {shortTerm(t) → -0.0067 equityYield(t - 1) + 0.0067 equityYield(t) -  
  0.1538 longTerm(t - 3) + 0.1538 longTerm(t) + 0.0618 shortTerm(t - 2) + 0.9382 shortTerm(t - 1)}
```

$$st(t) == 1.02195 s(t - 1) - 0.0219 st(t - 2) + 0.005 ey(t - 1) - 0.005 ey(t - 2)$$