

# Problem Set #1

Economics of Global Business

# GDP and Labor Compensation Grow Together

	1970-1980	1980-1990	1990-2000	2000-2015	1970-2015
Growth Rate of GDP	9.79	7.37	5.42	3.73	6.32
Growth Rate of Labor Compensation	9.56	7.21	5.61	3.05	6.12

- Note: Computed using continuously compounded, average, annualized growth rates.

# GDP and Labor Compensation Grow Together

- Big Picture: In our model, wages should grow one-for-one with output and this is what the data shows.
- Why? Profit Maximization implies that  $w/p = \text{the Marginal Product of Labor (MPL)}$ .
- In the Cobb-Douglas production function, this implies that  $w/p = (1-\alpha)(Y/L)$  or rearranging:  $wL = (1-\alpha)PY$ . The left-hand side is all wages paid to workers (i.e. total labor compensation) and the right-hand side is nominal GDP. Because they are linked through the constant  $(1-\alpha)$ , this implies growth in nominal GDP should correspond with growth in labor compensation.
- The previous table shows that, consistent with our framework, growth in output correspond nearly exactly matches growth in labor compensation.