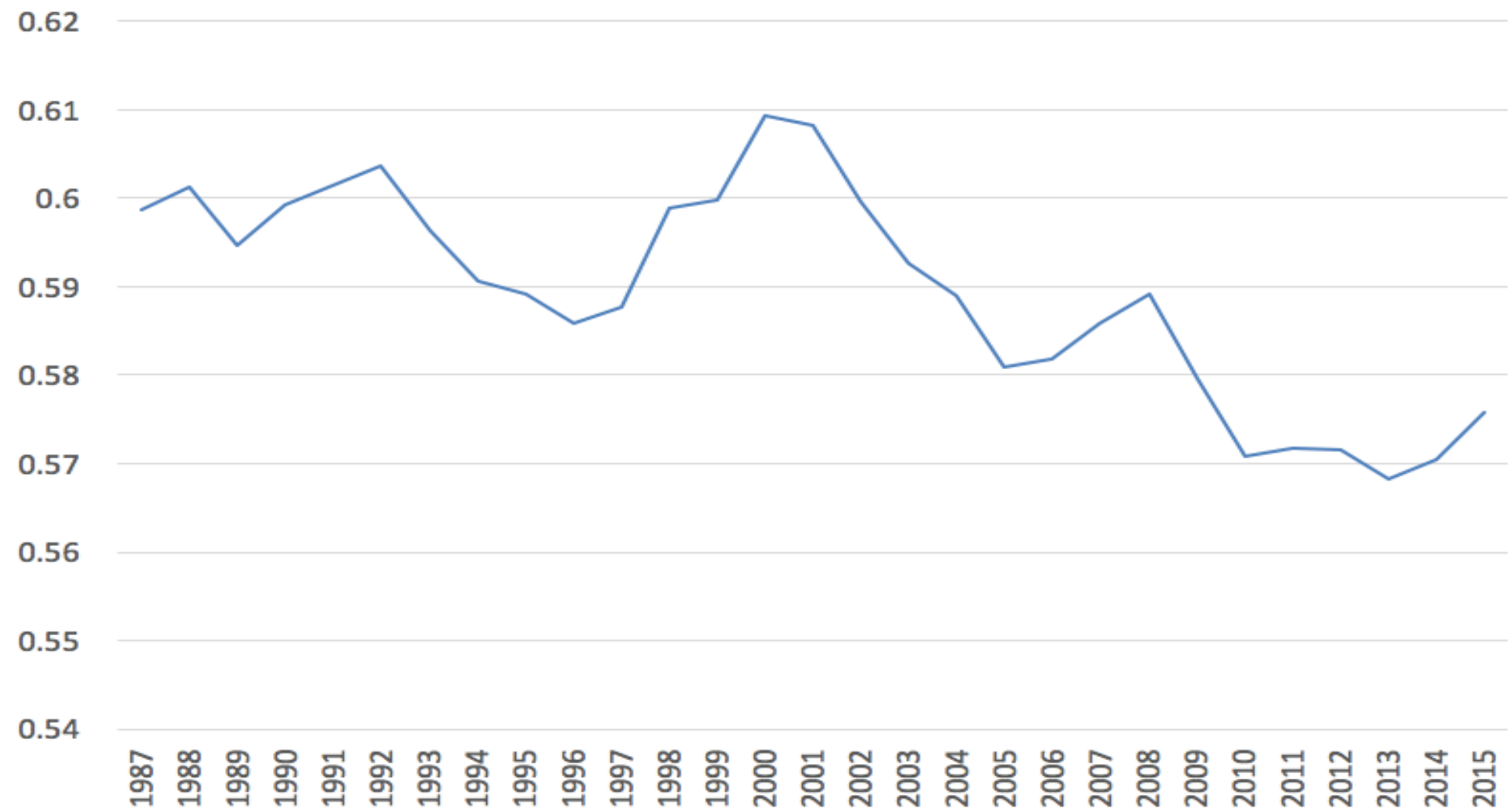


Some Notes on R&D, Structural Transformation and the Distribution of Income

Prof. Jeffrey D. Sachs

NBER Workshop on the Economics of
Artificial Intelligence
September 14, 2017

Labor Share of GDP at Factor Cost



	Typical Expertise	Typical Workflow Predictability
Goods Producing	Low to Moderate	High
Basic Business Services	Moderate	Moderate to High
Personal Services	Low to Moderate	Low to Moderate
Professional Services	High	Low
Government	Moderate to High	Moderate to High

Figure 2. Labor Share by Sector

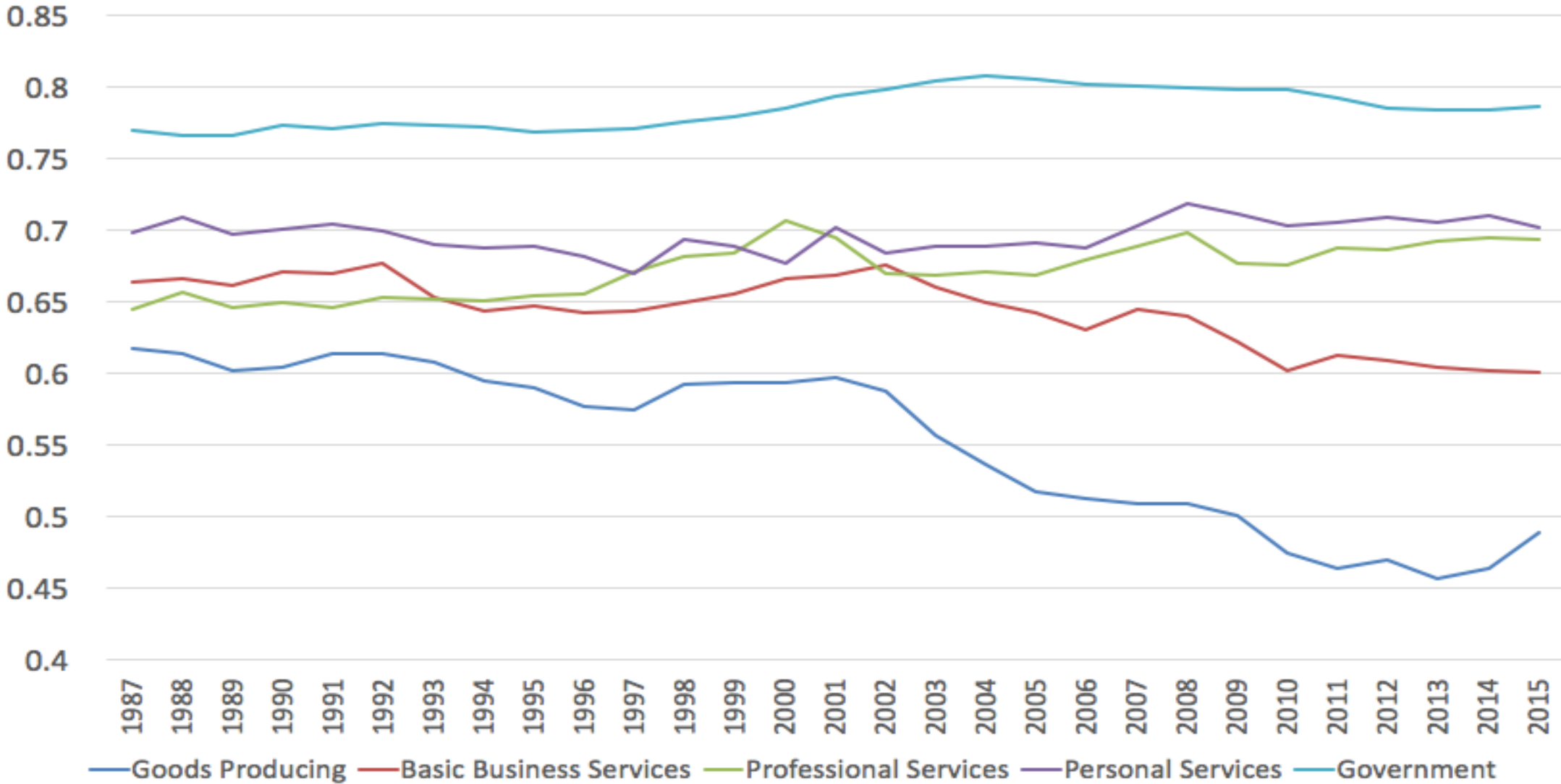


Figure 3. Share of Earnings by Educational Attainment

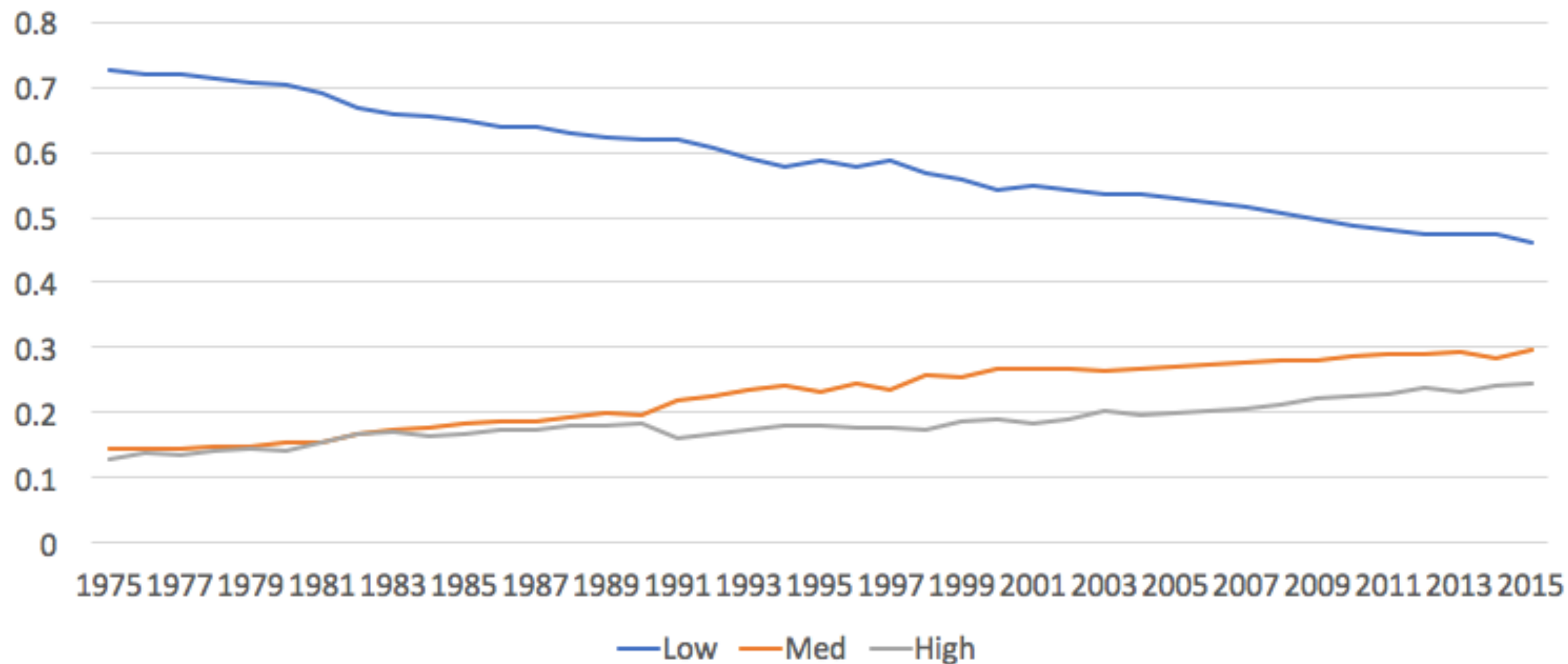
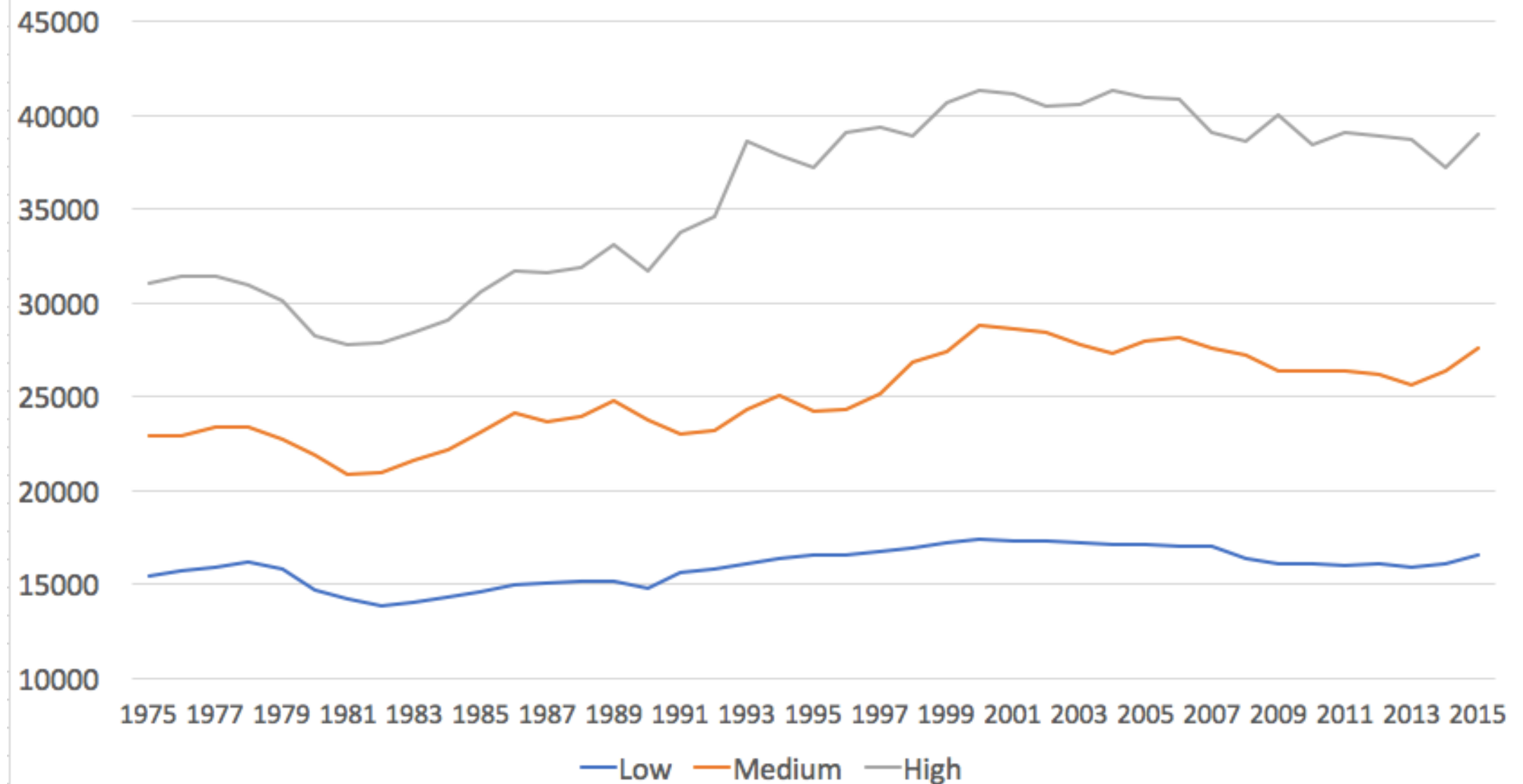


Figure 4. Real Mean Earnings by Education in \$1982-84



Share of Employment by Education

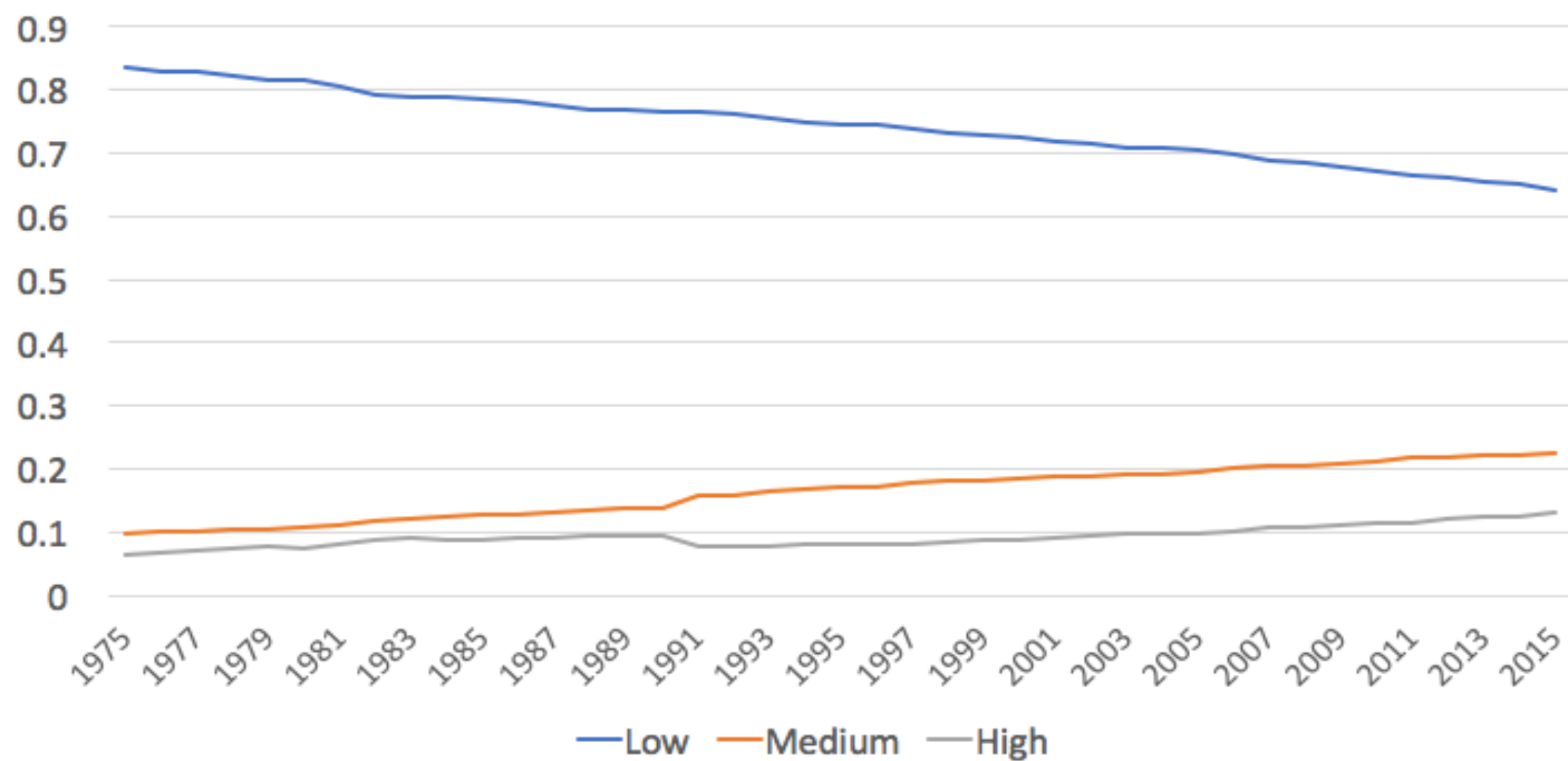
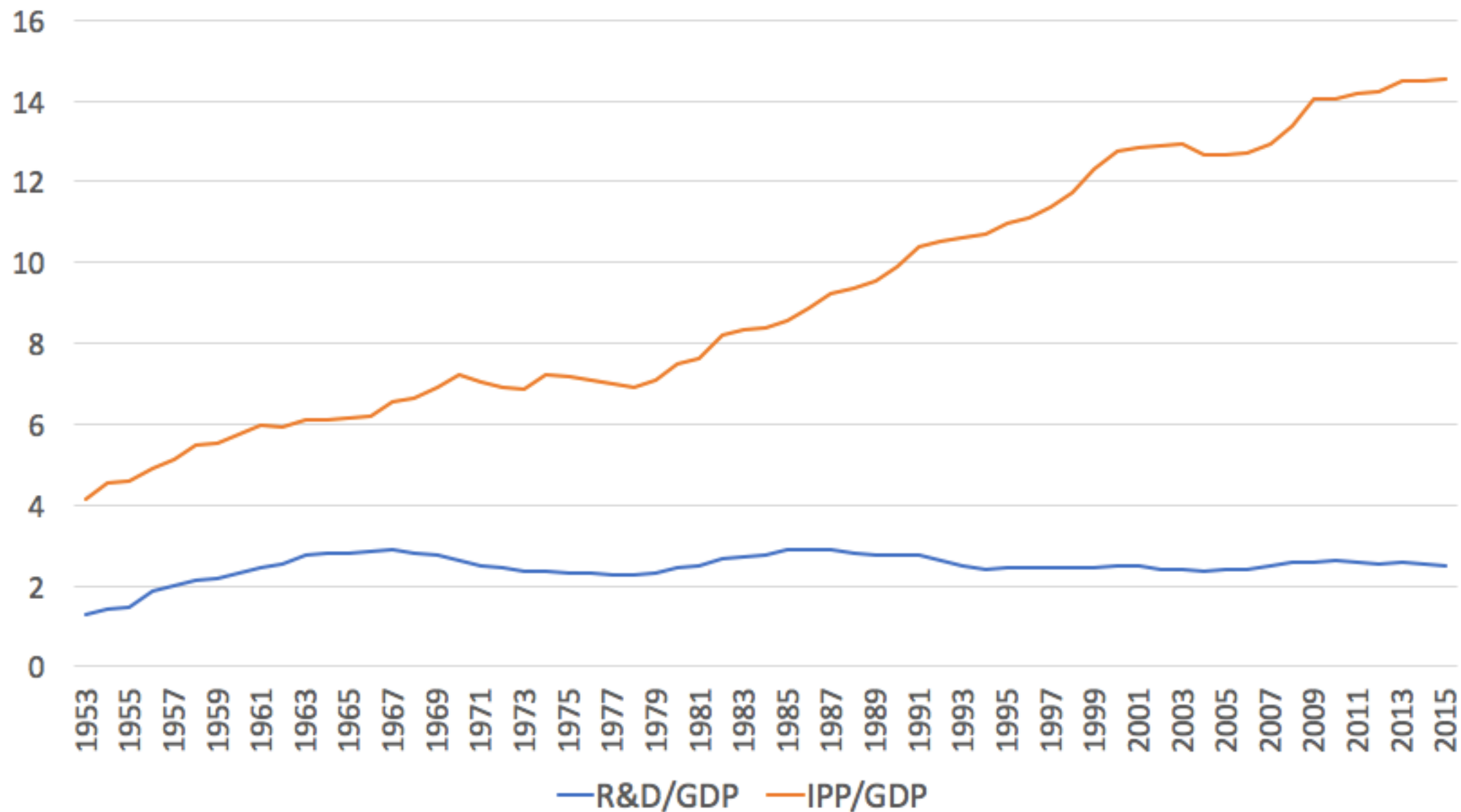


Figure 6. R&D and Intellectual Property (%GDP)



$$Q = P^a N^b B^{(1-a-b)}$$

$$P = L_p + t_p * M_p$$

$$N = L_N + t_N * M_N$$

$$L_U = L_{pU}$$

$$L_I = L_{NI} + L_{pI}$$

$$K = B + M_p$$

$$W_U = a * (L_U + t_p * M_p)^{(a-1)} L_I^b S^{(1-a-b)}$$

$$W_I = b * (L_U + t_p * M_p)^a L_I^{(b-1)} S^{(1-a-b)}$$

Figure 7. Labor by Educational Attainment

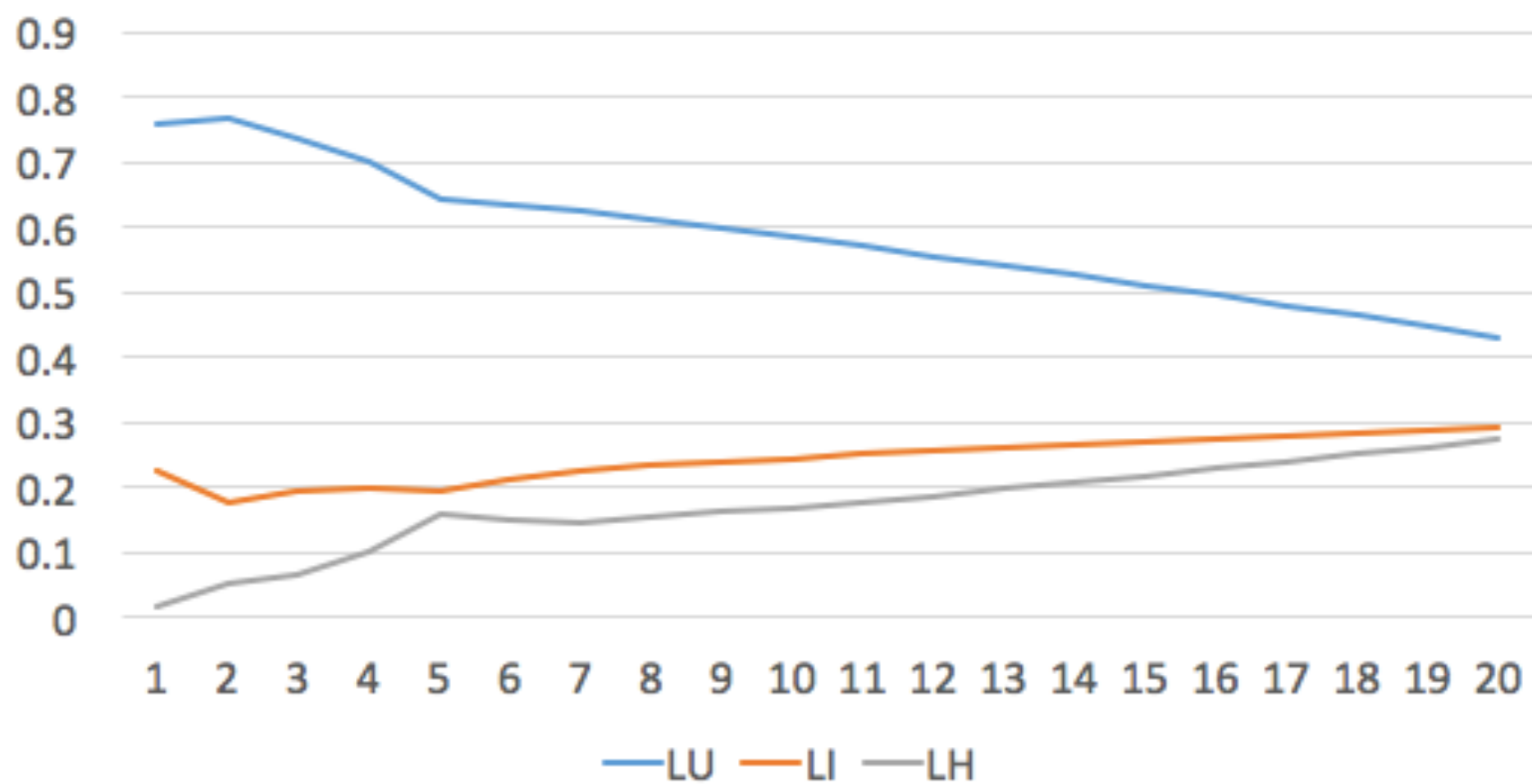


Figure 8. Labor By Educational Attainment
Automation for Low-Skilled and Intermediate-Skill Tasks

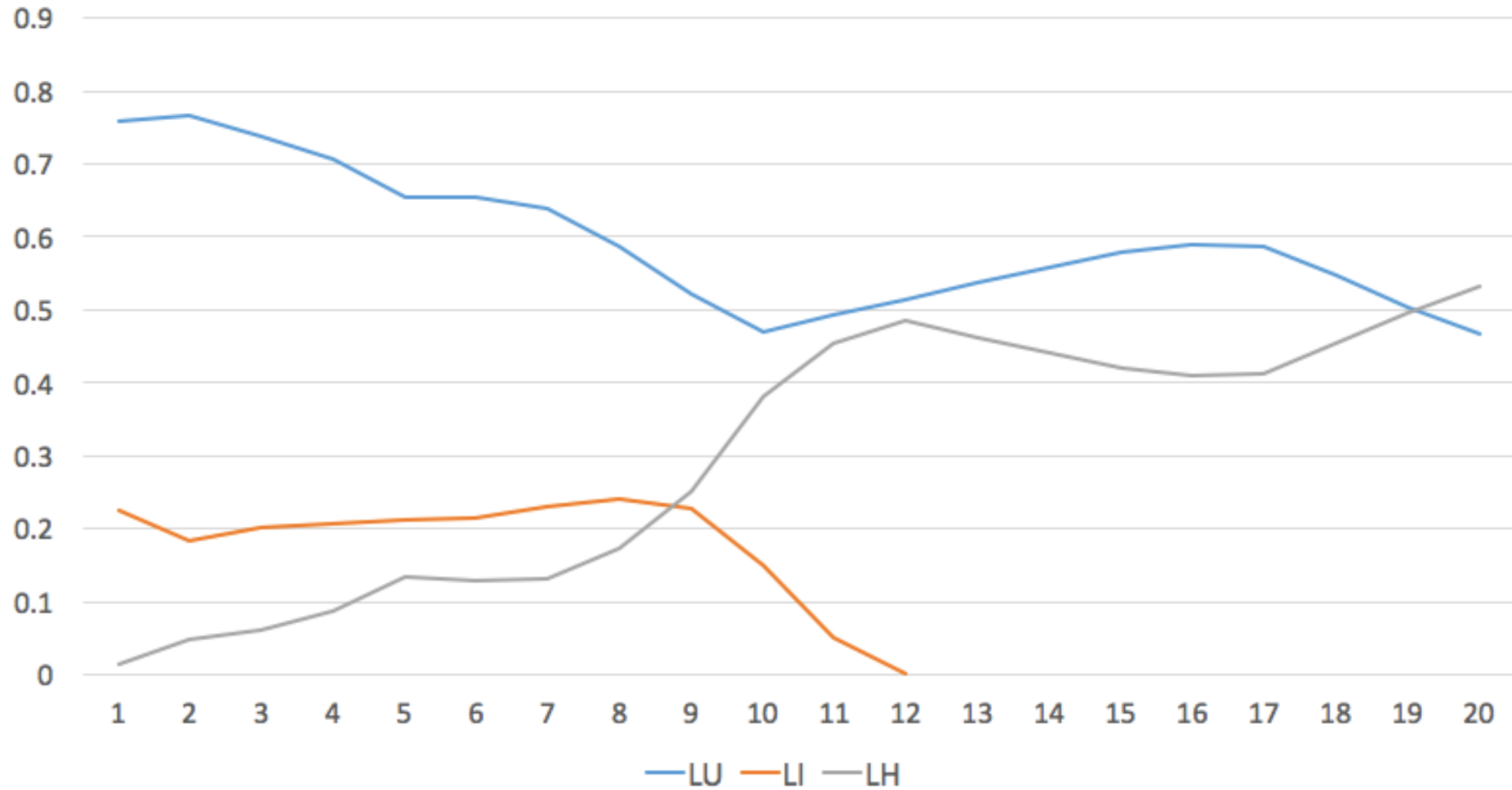


Figure 9. Labor Share of GDP

