

WEEK 1

1. **Technology changes demand for labor through two mechanisms:**
 - a. **Substituting for some human tasks**
 - b. **Complementing other human tasks**
2. **For most of economic history, technical change has redivided physical tasks between humans and machines. With the advent of computers, we are now talking about redividing cognitive tasks - information processing tasks – between humans and machines.**
3. **To set context, note that all human work involves processing information: an analyst reading numbers on a spreadsheet, a farmer scanning the sky to see if it will rain, a chef tasting a sauce, a salesperson reading a customer’s body language – each of these people is processing information either to decide what to do next or to update their picture of the world.**
4. **A central question in the course is to understand which, among these various information processing tasks, computers can do better than humans.**
5. **We will also look at our subject from a second perspective. Over the last 30 years, there have been two major developments in the evolution of labor markets.**
 - a. **The growth of labor productivity - the value of output per worker and the central determinant of average wages – slowed sharply after 1973 and then revived beginning in the mid 1990s. What, if anything, did computers have to do with the revival of productivity.**
 - b. **The years after 1979 saw a rapid increase in the rate of return to schooling – e.g. the gap between the average earnings of high school graduates and college graduates. This increase was one important determinant of growing wage and income inequality. What, if anything, did computers have to do with this growth?**
6. **Week concludes with discussion of two early attempts to model computers’ impacts. Krueger article shows that people who work with computers on the job, *cet. par.* have 12%-15% higher wages than people who don’t. But cross section nature of data makes causality unclear – is it that computers raise productivity that much or is it that computers were**

assigned to talented individuals? Autor, Katz and Krueger paper shows that over time, industries with greater computer usage shifted employment mix toward college graduates and away from high school graduates. Assuming results are correct, what is not clear is why they occurred? What, exactly were computers doing that permitted this shift? That is what we will be exploring.