



UNIT 3  
**SCARCITY, WORK, AND CHOICE**

Clock mechanisms

**THEMES AND CAPSTONE UNITS**

≡ ● [History, instability, and growth](#)

≡ ● [Global economy](#)

≡ ● [Innovation](#)

≡ ● [Politics and policy](#)

**How individuals do the best they can, and how they resolve the trade-off between earnings and free time** +

**3.1 Labour and production** +

**3.2 Preferences** +

**3.3 Opportunity costs** +

**3.4 The feasible set** +

**3.5 Decision making and scarcity** +


**3.6 Hours of work and economic growth** ● ● +

**3.7 Income and substitution effects on hours of work and free time** +

**3.8 Is this a good model?** +

**3.9 Explaining our working hours: Changes over time** -

● History, instability, and growth ● Innovation

 During the year 1600, the average British worker was at work for 266 days. This statistic did not change much until the Industrial Revolution. Then, as we know from the previous unit, wages began to rise, and working time rose too: to 318 days in 1870.

Meanwhile, in the US, hours of work increased for many workers who shifted from farming to industrial jobs. In 1865 the US abolished slavery, and former slaves used their freedom to work much less. From the late nineteenth century until the middle of the twentieth century, working time in many countries gradually fell. Figure 3.1 at the beginning of this unit showed how annual working hours have fallen since 1870 in the Netherlands, the US and France. 6

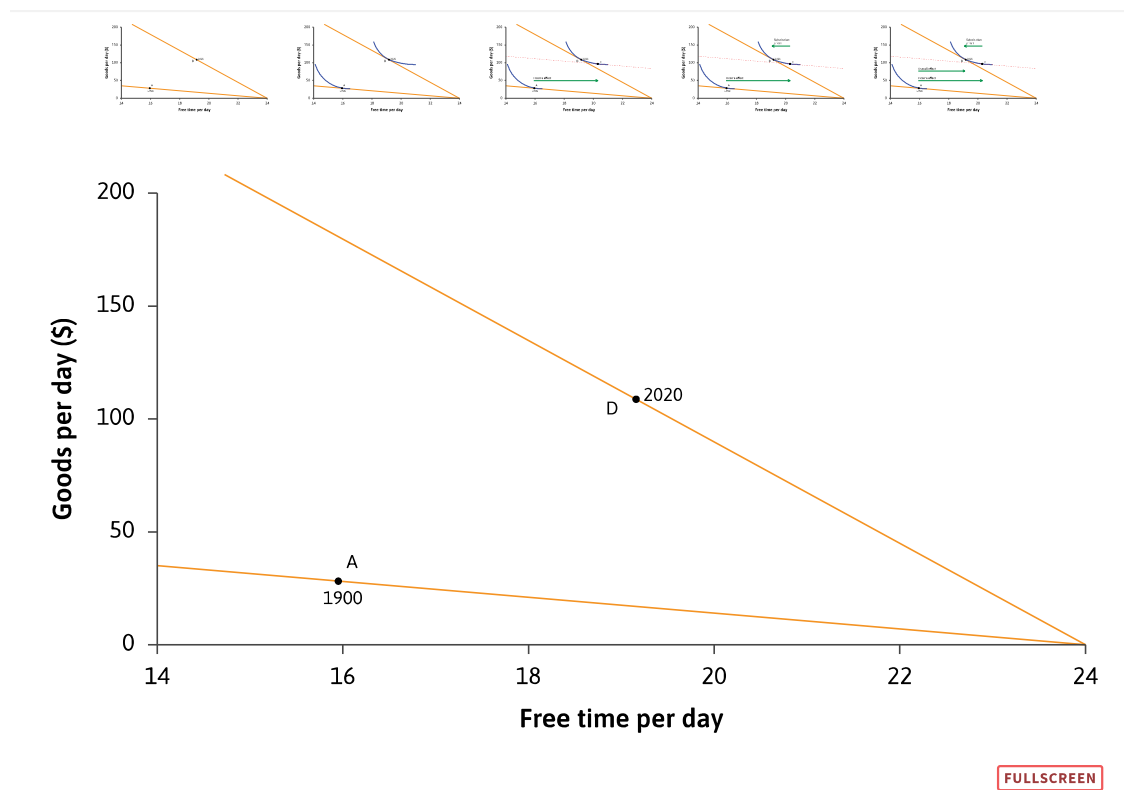
The simple models we have constructed cannot tell the whole story. Remember that the *ceteris paribus* assumption can omit important details: things that we have held constant in models may vary in real life.

As we explained in the previous section, our model omitted two important explanations, which we called culture and politics. Our model provides another explanation: economics.

Look at the two points in Figure 3.20, giving estimates of average amounts of daily free time and goods per day for employees in the US in 1900 and in 2020. The slopes of the budget constraints through points A and D are the real wage (goods per hour) in

1900 and in 2020. This shows us the feasible sets of free time and goods that would have made these points possible. Then we consider the indifference curves of workers that would have led workers to choose the hours they did. We cannot measure indifference curves directly: we must use our best guess of what the preferences of workers would have been, given the actions that they took.

How does our model explain how we got from point A to point D? You know from Figure 3.19b that the increase in wages would lead to both an income effect and a substitution effect. In this case, the income effect outweighs the substitution effect, so both free time and goods consumed per day go up. Figure 3.20 is thus simply an application to history of the model illustrated in [Figure 3.19b](#). Work through the steps to see the income and substitution effects.



FULLSCREEN

### Using the model to explain historical change

We can interpret the change between 1900 and 2020 in daily free time and goods per day for employees in the US using our model. The solid lines show the feasible sets for free time and goods in 1900 and 2020, where the slope of each budget constraint is the real wage.

**Figure 3.20** Applying the model to history: Increased goods and free time in the US (1900–2020).

OECD. [Average annual hours actually worked per worker](#). Accessed October 2021. Michael Huberman and Chris Minns. 2007. 'The times they are not changin': Days and hours of work in Old and New Worlds, 1870–2000'. *Explorations in Economic History* 44 (4): pp. 538–567.

How could reasoning in this way explain the other historical data that we have?

First, consider the period before 1870 in Britain, when both working hours and wages rose:

- *Income effect*: At the relatively low level of consumption in the period before 1870, workers' willingness to substitute free time for goods did not increase much when rising wages made higher consumption possible.
- *Substitution effect*: But they were more productive and paid more, so each hour of work brought more rewards than before in the form of goods, increasing the incentive to work longer hours.
- *Substitution effect dominated*: Therefore before 1870 the negative substitution effect (free time falls) was bigger than the positive income effect (free time rises), so work hours rose.

During the twentieth century we saw rising wages and falling working hours. Our model accounts for this change as follows:

- *Income effect*: By the late nineteenth century workers had a higher level of consumption and valued free time relatively more—their marginal rate of substitution was higher—so the income effect of a wage rise was larger.
- *Substitution effect*: This was consistent with the period before 1870.
- *Income effect now dominates*: When the income effect began to outweigh the substitution effect, working time fell.

We should also consider the possibility that preferences change over time. If you look carefully at Figure 3.1 you can see that in the last part of the twentieth century hours of work rose in the US, even though wages hardly increased. Hours of work also rose in Sweden during this period.

Why? Perhaps Swedes and Americans came to value consumption more over these years. In other words, their preferences changed so that their MRS fell (they became more like today's South Korean workers). This may have occurred because in both the US and Sweden the share of income gained by the very rich increased considerably, and the lavish consumption habits of the rich set a higher standard for everyone else. As a result, many

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The term 'conspicuous consumption' was coined by Thorstein Veblen (1857–1929), an economist, in his book *Theory of the Leisure Class*. At the time, he was describing the habits only of the upper classes. But increasing disposable income during the twentieth century means the term is now applied to anyone who ostentatiously consumes expensive goods and services as a public display of wealth.

Thorstein Veblen. (1899) 2007. *Theory of the Leisure Class*. Oxford: Oxford University Press.

people of lesser means tried to mimic the consumption habits of the rich, a habit known as **conspicuous consumption**. According to this explanation, Swedes and Americans were ‘keeping up with the Joneses’. The Joneses got richer, leading everyone else to change their preferences.

The combined political, cultural and economic influences on our choices may produce some surprising trends. In our ‘Economist in action’ video, Juliet Schor, a sociologist and economist who has written about the paradox that many of the world’s wealthiest people are working more despite gains in technology, asks what this means for our quality of life, and for the environment.

### Juliet Schor: Why do we work so hard?



Other video options

[Juliet Schor: Why do we work so hard?](#)

### QUESTION 3.11 CHOOSE THE CORRECT ANSWER(S)

[LINK](#)

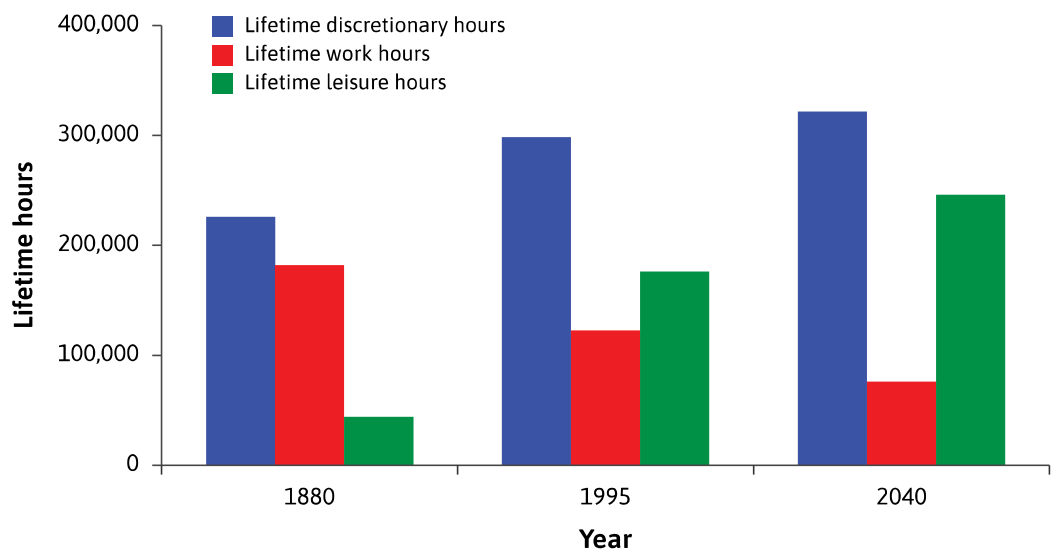
[Figure 3.20](#) depicts a model of labour supply and consumption for the US in 1900 and 2020. The wage rate is shown to have increased between the two years.

Which of the following are true?

- The substitution effect corresponds to the steepening of the budget constraint. This is represented by the move from point A to point D.
- The income effect corresponds to the parallel shift in the budget constraint outwards due to the higher income. This is represented by the move from point A to C.
- As shown, the income effect dominates the substitution effect, leading to a reduction in the hours of work.
- If Americans had had different preferences, they might have responded to this wage rise by reducing their free time.

[Check my answers](#)

What about the future? The high-income economies will continue to experience a major transformation: the declining role of work in the course of our lifetimes. We go to work at a later age, stop working at an earlier age of our longer lives, and spend fewer hours at work during our working years. Robert Fogel, an economic historian, estimated the total working time, including travel to and from work and housework, in the past. He made projections for the year 2040, defining what he called discretionary time as 24 hours a day minus the amount we all need for biological maintenance (sleeping, eating and personal hygiene). Fogel calculated leisure time as discretionary time minus working time. <sup>7</sup>



FULLSCREEN

**Figure 3.21** Estimated lifetime hours of work and leisure (1880, 1995, 2040).

Robert William Fogel. 2000. *The Fourth Great Awakening and the Future of Egalitarianism*. Chicago: University of Chicago Press.

In 1880 he estimated that lifetime leisure time was just a quarter of lifetime work hours. In 1995 leisure time exceeded working time over a person's entire life. He predicted that lifetime leisure would be three times of lifetime working hours by the year 2040. His estimates are in Figure 3.21.

We do not yet know if Fogel has overstated the future decline in working time, as Keynes once did. But he certainly is right that one of the great changes brought about by the technological revolution is the vastly reduced role of work in the life of an average person.

### EXERCISE 3.9 SCARCITY AND CHOICE [LINK](#)

1. Do our models of scarcity and choice provide a plausible explanation for the observed trends in working hours during the twentieth century?
2. What other factors, not included in the model, might be important in explaining what has happened?
3. Remember Keynes' prediction that working hours would fall to 15 hours per week in the century after 1930. Why do you think working hours have not changed as he expected? Have people's preferences changed? The model focuses on the number of hours workers would choose, so do you think that many employees are now working longer than they would like?
4. In his essay, Keynes said that people have two types of economic needs or wants: absolute needs that do not depend on the situation of other fellow humans, and relative needs—which he called 'the desire for superiority'. The phrase 'keeping up with the Joneses' captures a similar idea that our preferences could be affected by observing the

consumption of others. Could relative needs help to explain why Keynes was so wrong about working hours?

**3.10 Explaining our working hours: Differences between countries** ● ● +

**3.11 Conclusion** +

**3.12 References** +