## Procrastination: an economic analysis

Most people are quite familiar with procrastination—a tendency that affects the way they complete (or do not complete) projects in the workplace, in school, at home, and elsewhere. A conventional explanation for procrastination is that people act rationally, choosing to postpone tasks because they find it difficult to muster the self-discipline to begin them earlier. In "An Economic Model of the Planning Fallacy" (NBER Working Paper Series, National Bureau of Economic Research, August 2008), Markus K. Brunnermeier, Filippos Papakonstantinou, and Jonathan A. Parker use advanced mathematics, along with data from experiments, to argue in favor of an alternative theory. They contend that the only cause of procrastination is people's tendency to underestimate the amount of time needed to complete a project.

Various studies—in both laboratory and nonlaboratory settings—have demonstrated that when given an unpleasant task, the average person takes much longer to complete it than he or she predicted before beginning the task. The paper's authors call the faulty reasoning behind this behavior "the planning fallacy." Because of the planning fallacy, people often spend a disproportionately large amount of time working on projects close to the deadline. The authors explain that people do this because the utility derived from the felicitous belief that a project will be easy to complete outweighs the cost of not properly "smoothing" work over time. The researchers believe that, subconsciously, people actually do realize about how long most projects take; yet, when faced with a new project, they still consciously believe that the project will take less time.

When people are asked to complete a simple, non-onerous task in an experiment, they actually tend to complete the task slightly more quickly than they predicted beforehand. However, when people are paid on the basis of how quickly they complete either a non-onerous or a burdensome task, they tend to underestimate the amount of time necessary to finish it. By contrast, financial incentives for accurate prediction can eliminate the planning fallacy.

Brunnermeier, Papakonstantinou, and Parker argue that the results of the aforementioned experiments bolster their view that procrastination is based on the planning fallacy. The greater the anticipatory benefit to believing that the project will take little time, the stronger is the tendency to underestimate the amount of time necessary to complete it. Nevertheless, most people are aware of their penchant for postponing work; consequently, they often set intermediate deadlines in an effort to mitigate their procrastination.

## **Business cycle analysis**

Policymakers and business managers alike must regularly face the challenge presented by the recurrent cyclical fluctuations in the U.S. economy. Understanding the business cycle is crucial to both: policymakers must make decisions about monetary and fiscal policy in an effort to smooth out the cycles, while profit-maximizing managers must make informed decisions about their individual firms during the various stages of the business cycle. In "How the U.S. economy resembles a (very) big business" (Economic Perspectives, Federal Reserve Bank of Chicago, third quarter 2008), senior Bank economist Jeffrey R. Campbell analyzes the fluctuations in U.S. economic growth by treating the

U.S. economy as a very large business. This fictional business employs all of the workers in the U.S. economy, owns all of the capital, and returns all of its profits to its "shareholders," the U.S. public. Campbell presents tools for evaluating the contributions of particular product lines to U.S. economic growth and the effect they have on the business cycle. He extends his analysis by using the same tools to measure a large firm's exposure to macroeconomic risks.

Campbell employs two macroeconomic concepts to assess the contributions to overall economic growth made by particular sectors, as well as the sustainability of that growth: the fundamental national product accounting identity, which divides the total value of goods and services produced by the economy into discrete expenditure components, and the contributions to growth formula, which equates the rate of GDP growth with the sum of the individual component growth rates multiplied by their share of expenditures in the previous quarter.

When he applies these concepts to the U.S. economy, Campbell finds that macroeconomic risks are largely the result of periodic fluctuations in nonresidential fixed investment, which accounts for a substantial portion of overall economic activity. (Nonresidential fixed investment consists of purchases by firms of nonresidential structures, equipment, and software.) Expenditures on nondurable goods and services, which represent a very large portion of national income, fluctuate little from quarter to quarter and thus contribute only marginally to macroeconomic risks.

Campbell suggests that his methodology might be used by others to set macroeconomic benchmarks and "start a conversation about a business's place in the larger economy."