Chapter 2

Money, Prices, and Inflation

The Nobel Prize-winning economist Robert Solow once observed that "Everything reminds Milton of the money supply."[8] It's certainly true that Milton Friedman had a lifelong fascination with the money supply, leading to insights that profoundly changed both academic thought and practical policymaking.

Actually, Friedman's analysis begins on the other side of the market—the demand for money—as opposed to the supply. To the casual reader, the idea of studying the "demand for money" might sound absurd. Don't we all want as much money as we can possibly get? Isn't that all there is to say on the matter?

The answer is: Of course not. We'd all like as much *wealth* as we can possibly get, but wealth is not the same thing as money. Bill Gates is surely wealthier than I am, and I'm sure he's got a bigger house and bigger stock portfolio, but I'm not sure which of us has more *money*, by which I mean the coloured pieces of paper in our wallets plus our bank balances.[9]

Like the average North American, I hold, very roughly, about 10 weeks' income in the form of money. (Most of this is in the form of bank balances which I can access by writing checks or using my debit card.) With a little juggling—selling off some other assets, making withdrawals from long term savings accounts, taking out bank loans, or hoarding more cash—I could have quite a bit more. But I'm content with the money I've got.

Why 10 weeks' income, and not 8 or 12? Because I like to be prepared so I can make unanticipated purchases, from a hamburger on the way home from

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[8] Solow went on to observe that "Everything reminds me of sex, but I try to keep it out of my papers."

[9] There is room to quibble about exactly where to draw the line between bank balances that do and do not count as money. Checking account balances should surely count; balances in certificates of deposit that can't be withdrawn on short notice without a penalty probably shouldn't. The basic idea is that money is an asset that you can use quite easily to make purchases on a moment's notice.

work to an emergency plumbing repair. If my gutter guy starts taking credit cards, I might decide to hold less money. If I hear that street crime is on the rise, I might decide to hold less cash, and hence less money in total. If my bank starts offering a higher interest rate on certificates of deposit, I might want to take advantage of that by giving up some of my money. But unless *something* changes, I'm likely to go on wanting to hold about 10 weeks' income in the form of money.

With that out of the way, we can turn our attention to the *supply* of money. Money is supplied by the banking system and the monetary authorities (e.g., the Federal Reserve System in the United States, the Bank of Canada in Canada, and the Bank of England in the UK) in complicated ways, the details of which don't much matter here. So let's imagine a simple world where, as of a particular Monday morning, the populace collectively holds a total of $1 million. The government, which has been planning all along to buy $1 million worth of paper clips on Monday afternoon, makes the decision to pay for those paper clips with newly printed money (as opposed to using, say, tax revenue or borrowed funds).

What should we expect to happen? As of Monday afternoon, the people who sell paper clips are holding more money than they held this morning. In fact, the total money supply has doubled, so if we average this over the entire population, the average person (call her Alice) is now holding twice as much as she held this morning.[10] But *that's more than she wants*. If she wanted this much money, she would have arranged for it in the first place (perhaps by depositing a bit more of her paycheque into her chequing account instead of her retirement account).

So Alice has a problem: How is she going to get rid of this excess money? Discarding it seems like an exceptionally bad idea. Maybe she turns to her neighbour Bob and talks him into borrowing one of her dollars. But then *Bob* has an extra dollar to get rid of. Maybe she goes to the bank and buys a certificate of deposit. But then her banker, Carol, has more money than she wants in her vault. No matter where the money goes, the average person still has twice as much money as he or she did this morning and is still trying to get rid of it.

10 "Holding more money" can mean having more cash in your pocket, or it can mean having a larger chequing account balance.

The other way to get rid of money is to spend it. So sooner or later, Alice (or someone) decides to buy an extra hamburger or an extra haircut or a more expensive sweater—or maybe she schedules a gutter repair she'd been planning to put off till next year. This bids up the prices of hamburgers, haircuts, sweaters, and home maintenance by, say, 10 percent. Because prices are higher, people are now willing to hold 10 percent more money than they held this morning. Unfortunately, the amount of money floating around has gone up not by 10 percent but by 100 percent. So the process continues until prices are bid up by fully 100 percent. Now people want to hold all the excess money and the process comes to a halt.[11] The bottom line:

If you double (or triple or quadruple) the money supply, prices will double (or triple or quadruple).

The process might take a while, and some interesting stuff can happen along the way. (We'll have much more to say about this in the next few chapters.)

A little reflection reveals a somewhat deeper moral:

A jump in the general level of prices (as opposed to an increase in the price of one specific good or another) is *always* caused by people trying to get rid of money.

Why might people want to get rid of money? We've listed some reasons already—a wider acceptance of credit cards, an increase in street crime, a rise in the interest rate, or an increase in the supply of money, leaving people with more than they want to hold.

That's a good analysis of a rare phenomenon: A one-time jump in the price level. A far more common phenomenon is *inflation*, a steady and sustained rise in the price level over a substantial period of time.

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11 In brief: People try to get rid of money by buying things, which drives up prices until people are willing to hold the extra money after all. You might wonder why we can't tell a different story: Maybe people try to get rid of money by lending it, which drives down interest rates until people are willing to hold the extra money after all. (Remember that when the interest rate is low, alternatives to money—like certificates of deposit—are less attractive.) The problem with that story is that it runs afoul of economic theory, which tells us that the interest rate must be fully determined by the supply and demand for current and future goods and services, leaving no room for it to be affected by changes in the supply and demand for money.

What causes inflation? Our moral generalizes: Inflation is always caused by people trying to get rid of money, not all at once, but steadily over a substantial period of time.

And why might that happen? In principle, it could happen if there is a steady increase in the acceptance of credit cards, a steady increase in street crime, or a steady rise in the interest rate. But each of these factors seems quite inadequate to explain the rates of inflation, and the long periods of inflation, that we see in the real world. That leaves just one culprit: A steady increase in the supply of money.

This is the analysis that led to Milton Friedman's famous declaration that "inflation is always and everywhere a monetary phenomenon."

Prior to Friedman, this was controversial. In those dark days, one frequently heard talk of "cost-push inflation," in which, say, increasing wage demands from workers lead to rising prices for consumer goods, leading to increasing wage demands from workers, and so on around the vicious circle. Friedman insisted—and successfully convinced most economists—that this superficially plausible story makes no sense. One way or another, the quantity of money demanded has to equal the quantity of money supplied. Prices must adjust until that equilibrium is reached. This leaves no room for anything else to affect the price level.

The next obvious question is: Why should we care about the price level and inflation in the first place, and what outcomes should the monetary authorities be aiming for? That's where Friedman turned his attention next, and so shall we.