

You manage the core of the Economy

An activity invented by the System Dynamics Group, MIT
adapted by Peter Taylor, version 9/98

In this simulation you manage the supply for the
core of the economy =
the machines that make machines (MMM).

The aim is to make the economy run as smoothly
as possible—to meet demands but avoid business
cycles or big recessions.

The machines made are of two types:

- more machines to make machines (MMM)
- machines to make goods (MMG)

Orders for new MMG come from manufacturers of consumer goods, who take into account consumer demand.

Orders for new MMM come from you.

The reason the task is not so simple is that there is a time lag of a year between your making the order and it being fulfilled...

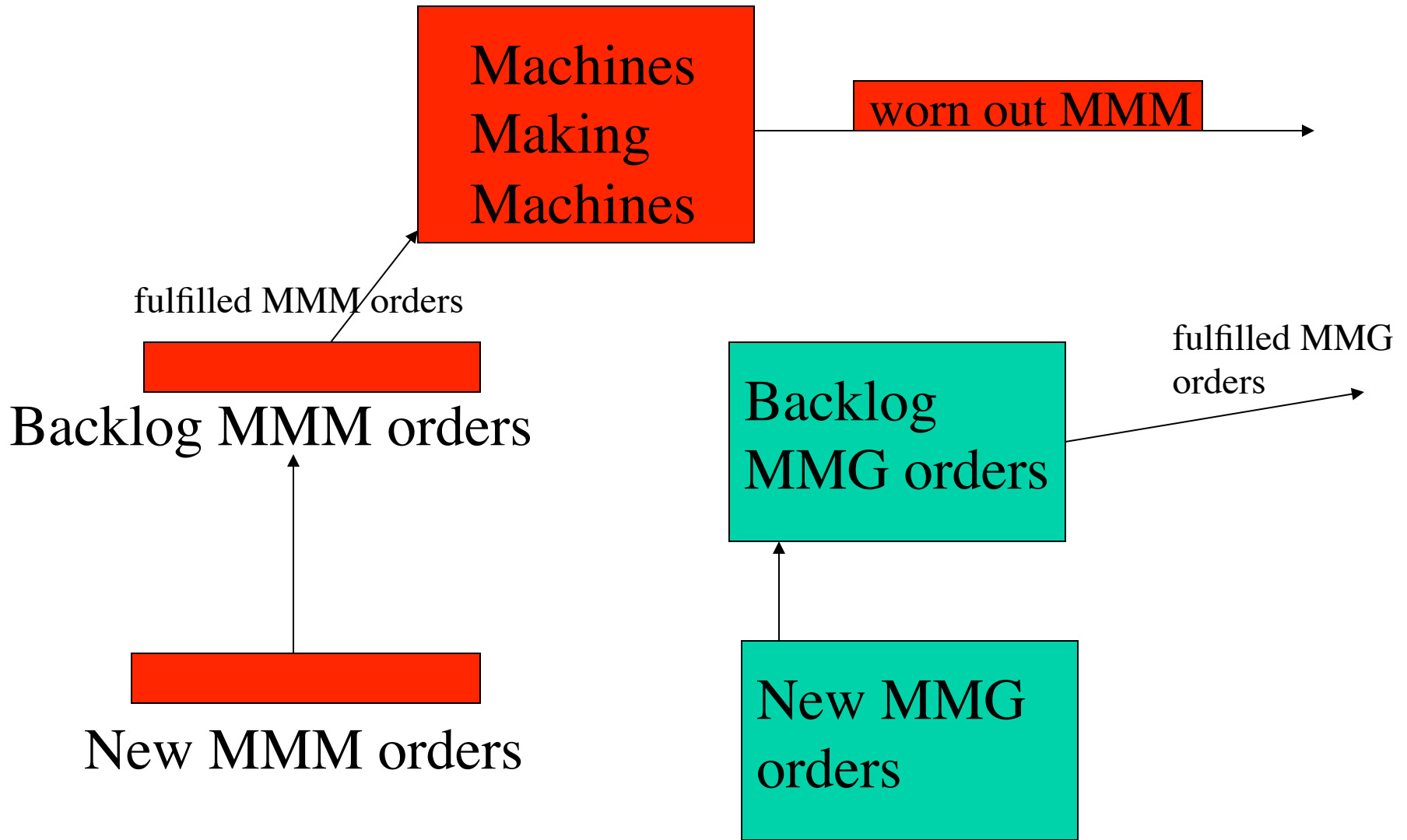
...or longer if your combined backlog of MMM and MMG orders at the start of the year exceeds the capacity for making machines.

Some details

Capacity for fulfilling orders = existing
MMM

If backlog $>$ capacity, the same fraction of
MMM & MMG backlog orders are
fulfilled

At the end of each year 10% of MMM
wear out & are put out of service



Start of year

Machines
Making
Machines


Backlog MMM orders

Backlog
MMG orders

during year

Machines
Making
Machines

fulfilled MMM orders



Backlog MMM orders

Backlog
MMG orders

fulfilled MMG
orders



End of year

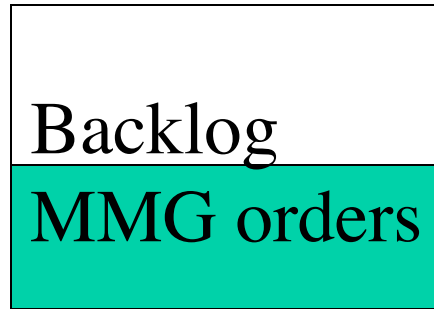
Machines
Making
Machines

worn out MMM

Backlog MMM orders

Backlog
MMG orders

New MMM orders



End of year

Machines
Making
Machines

Backlog MMM orders

Backlog
MMG orders

New MMG
orders



End of year

Machines
Making
Machines


Backlog MMM orders

Backlog
MMG orders

Before you run the economy (on a spreadsheet)

It's important that you understand how the figures in the spreadsheet are calculated.

So run through a year's cycle on paper, then you can try the spreadsheet. Finally, you can add more randomness by adjusting the teacher's parameters in column Q of the spreadsheet.

<http://www.faculty.umb.edu/pjt/longwave.doc>

<http://www.faculty.umb.edu/pjt/longwave.xls>