

Exploring the Market for Hybrids

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2009

Back in
time...

2007

Oil prices at
record highs !

\$66.52

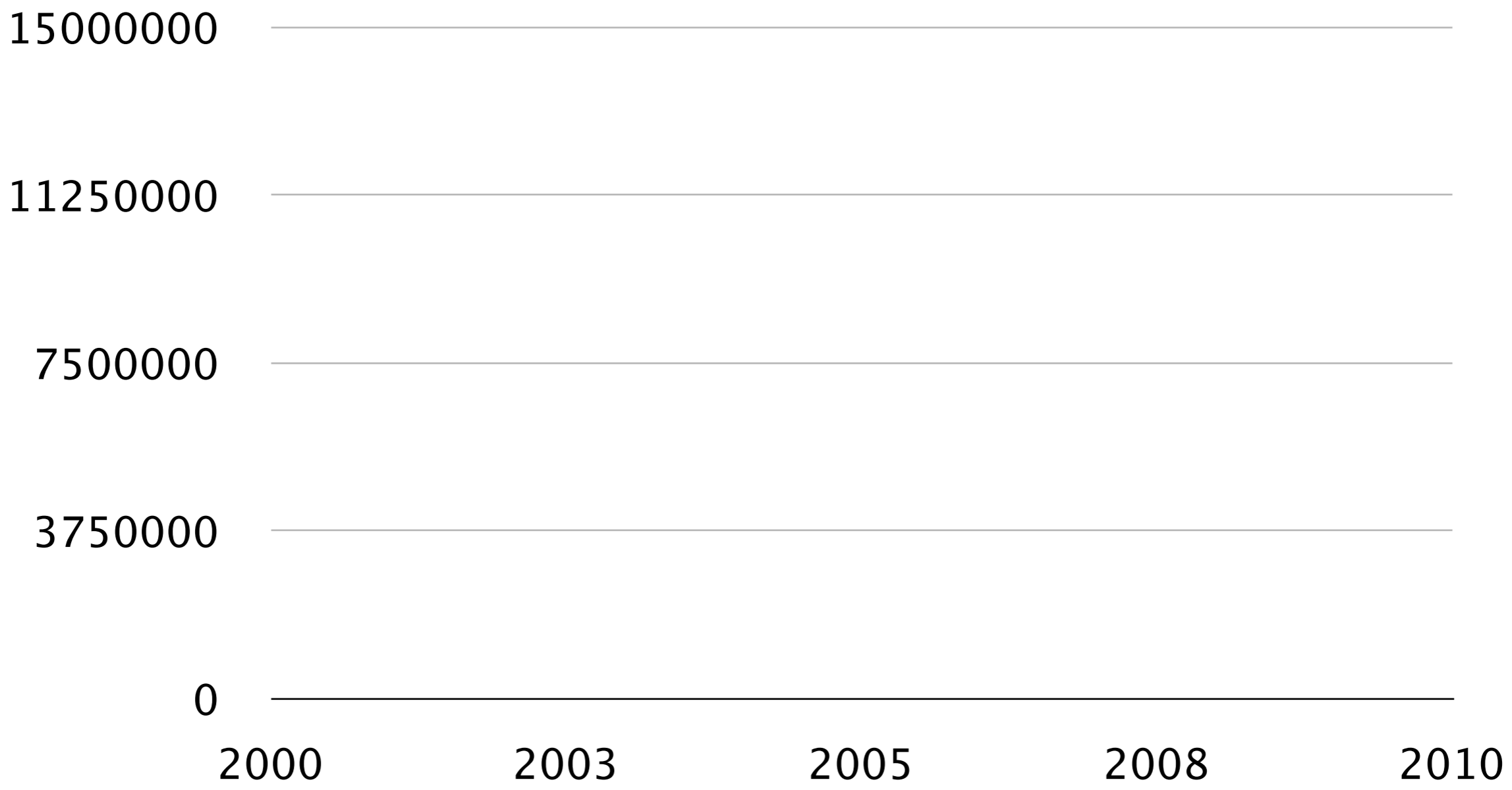
barrel of oil
Source: US DOE

Solution ?



“Toyota to Increase Imports To Meet Demand for Prius”

– New York Times, 17 April 2007



○ US Hybrid Sales

1500000

1125000

750000

375000

0

2000

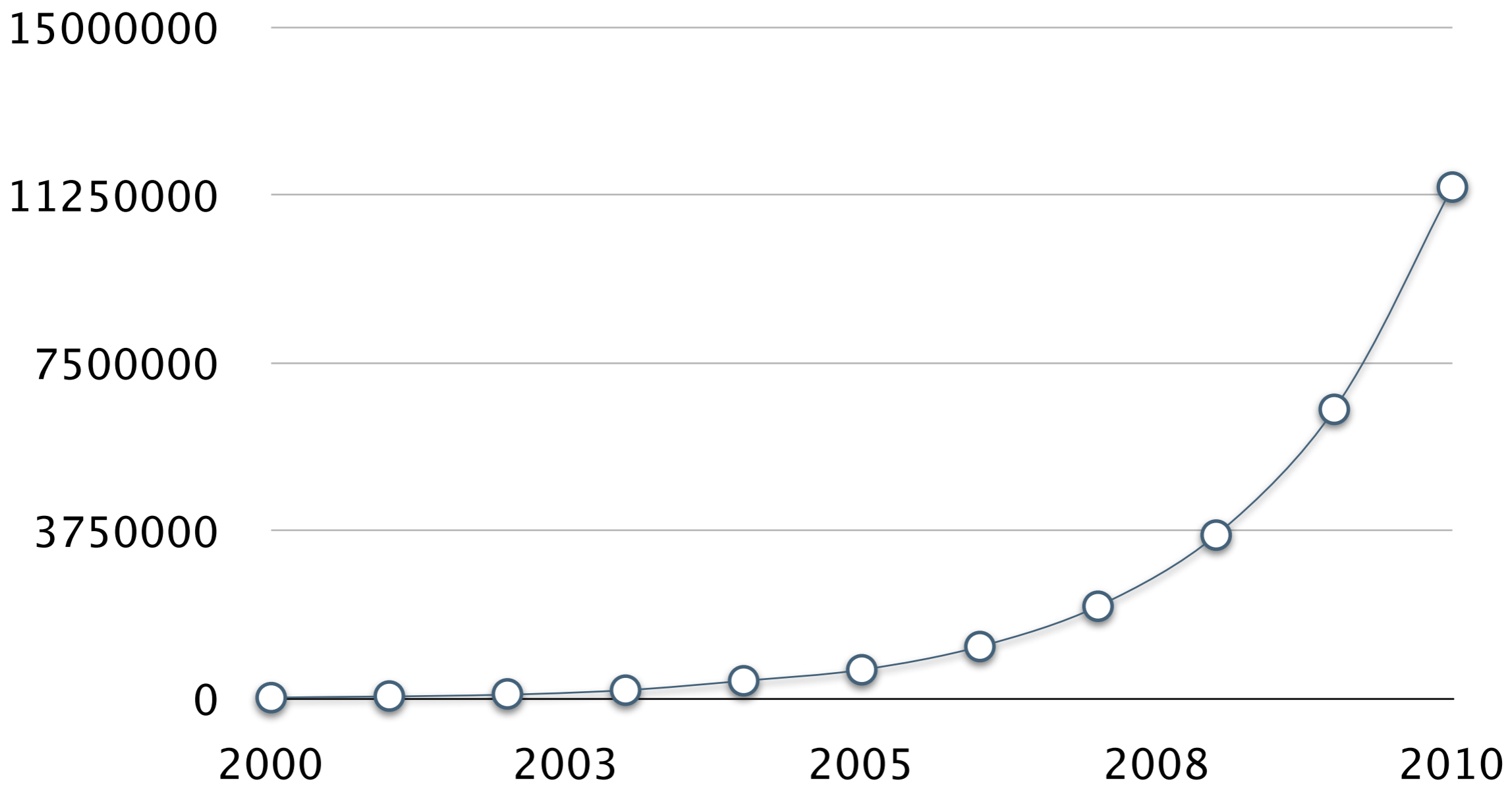
2003

2005

2008

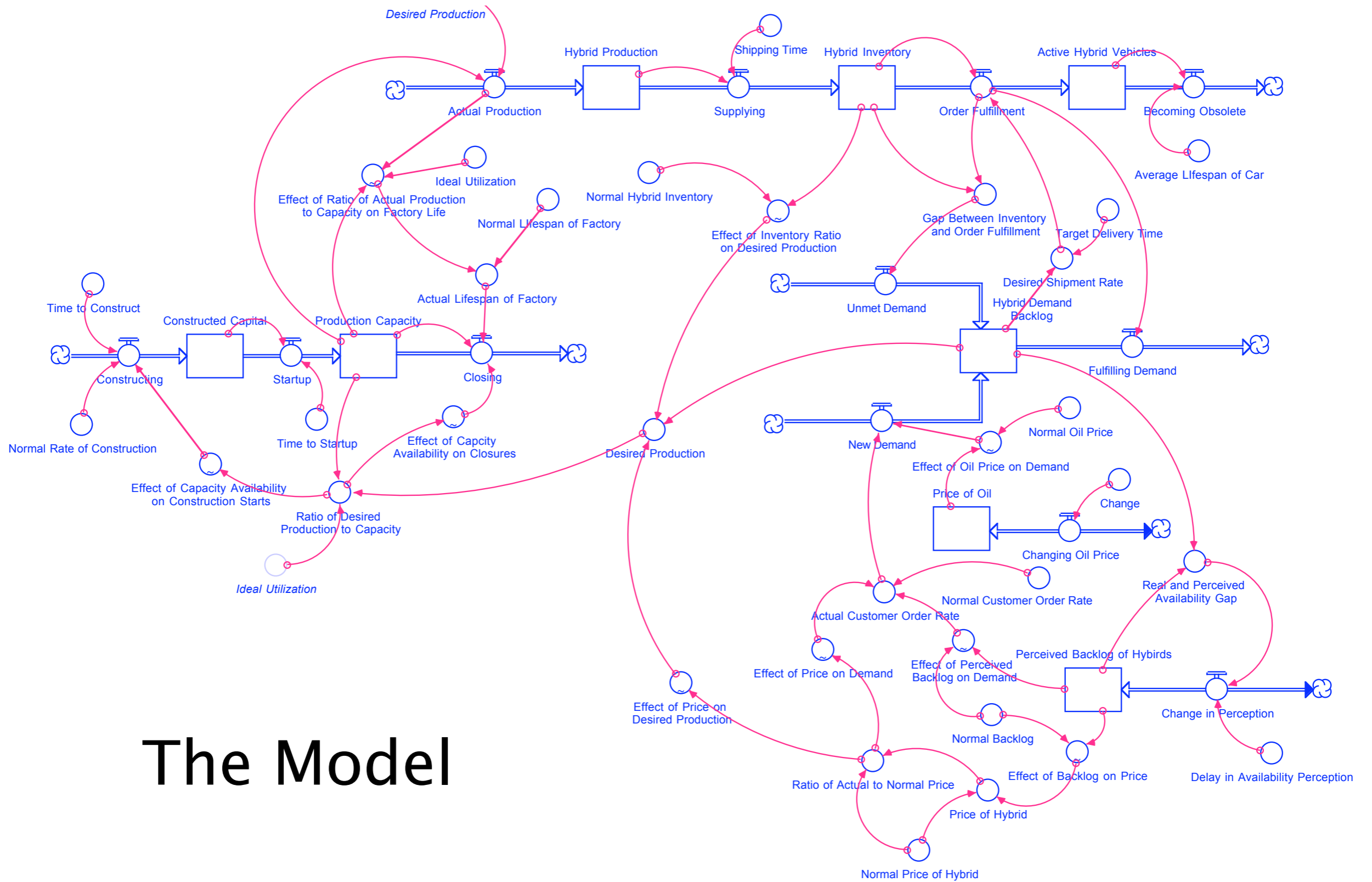
2010

○ US Hybrid Sales



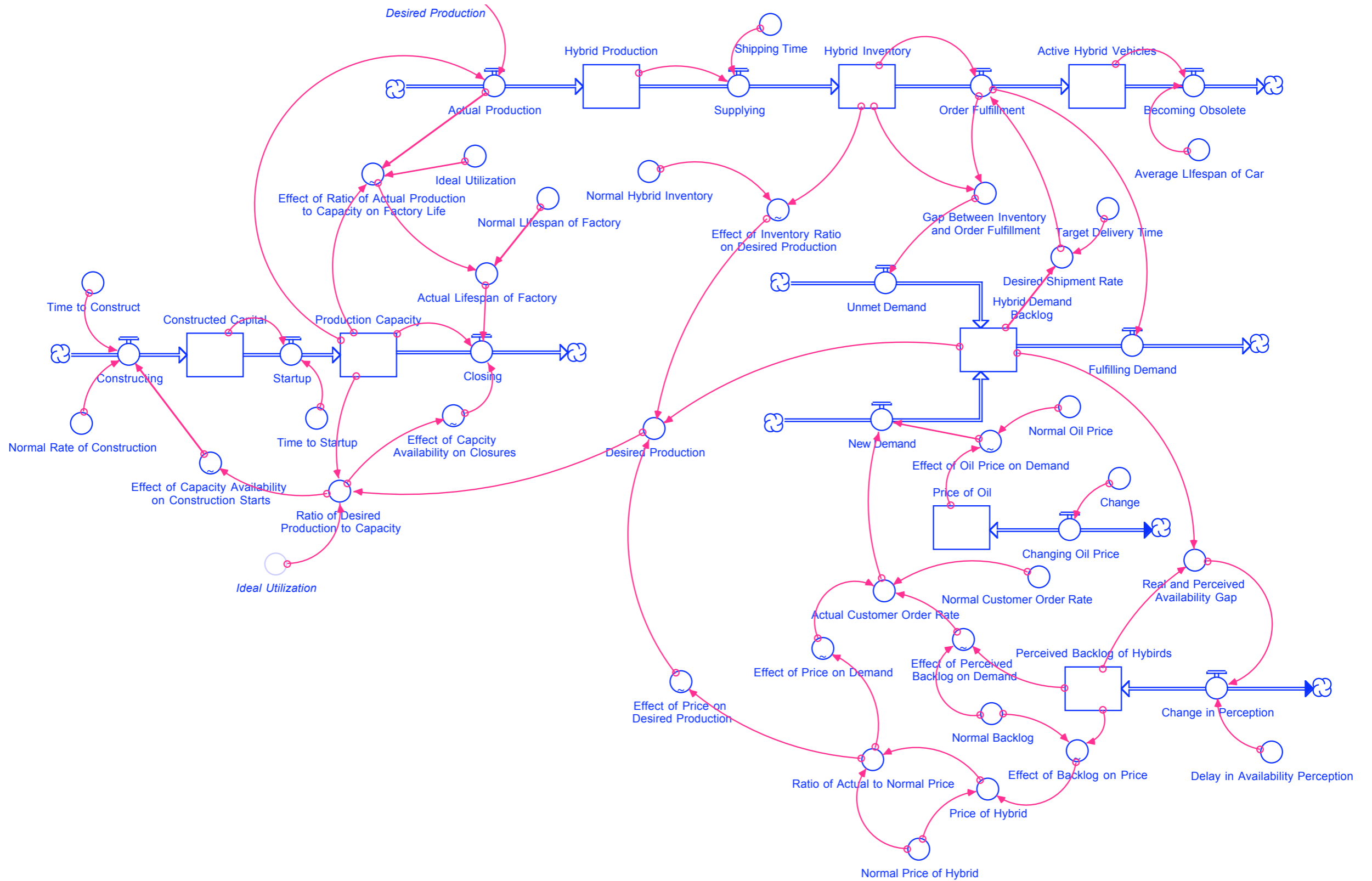
Understand the Problem

Build a Model

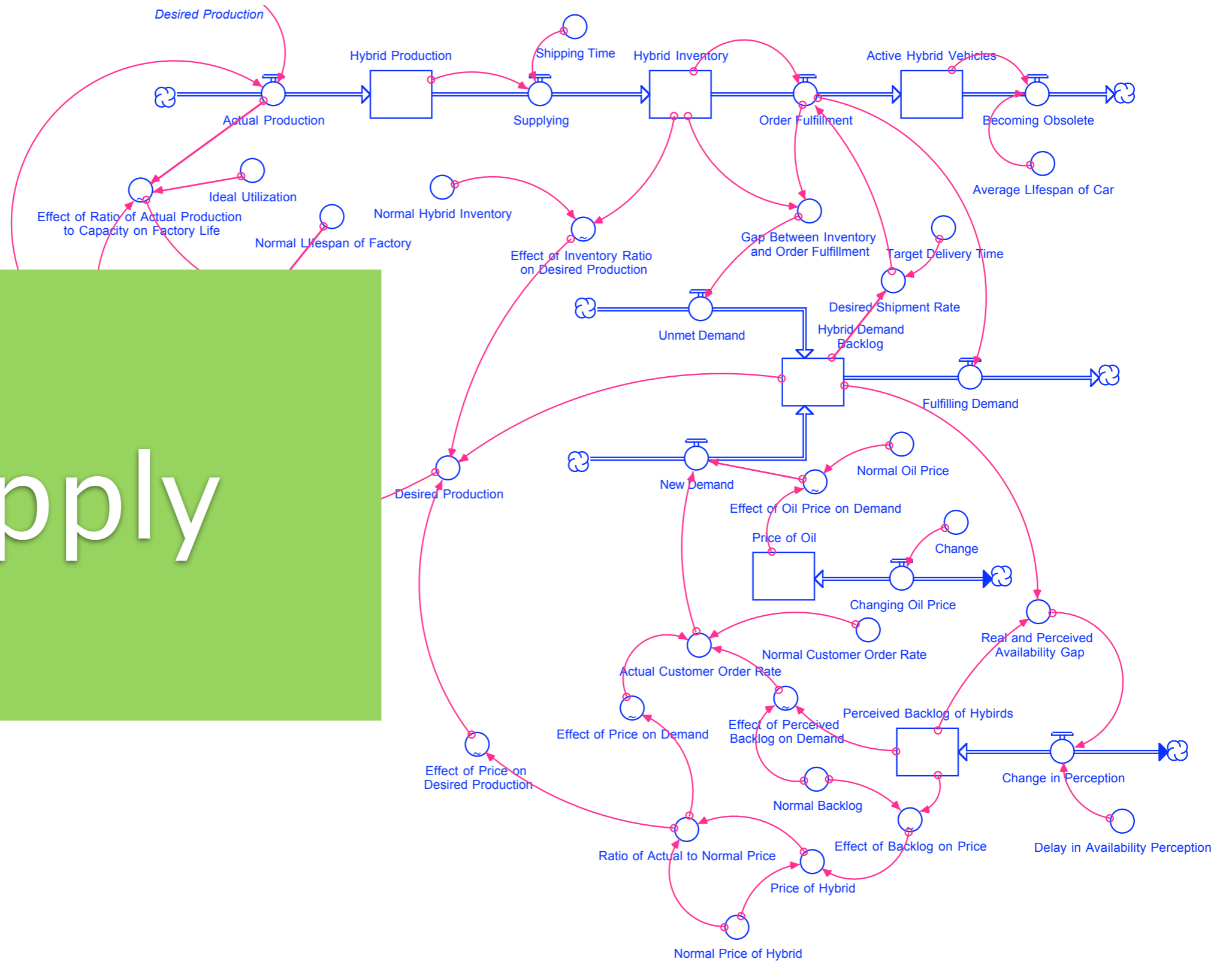


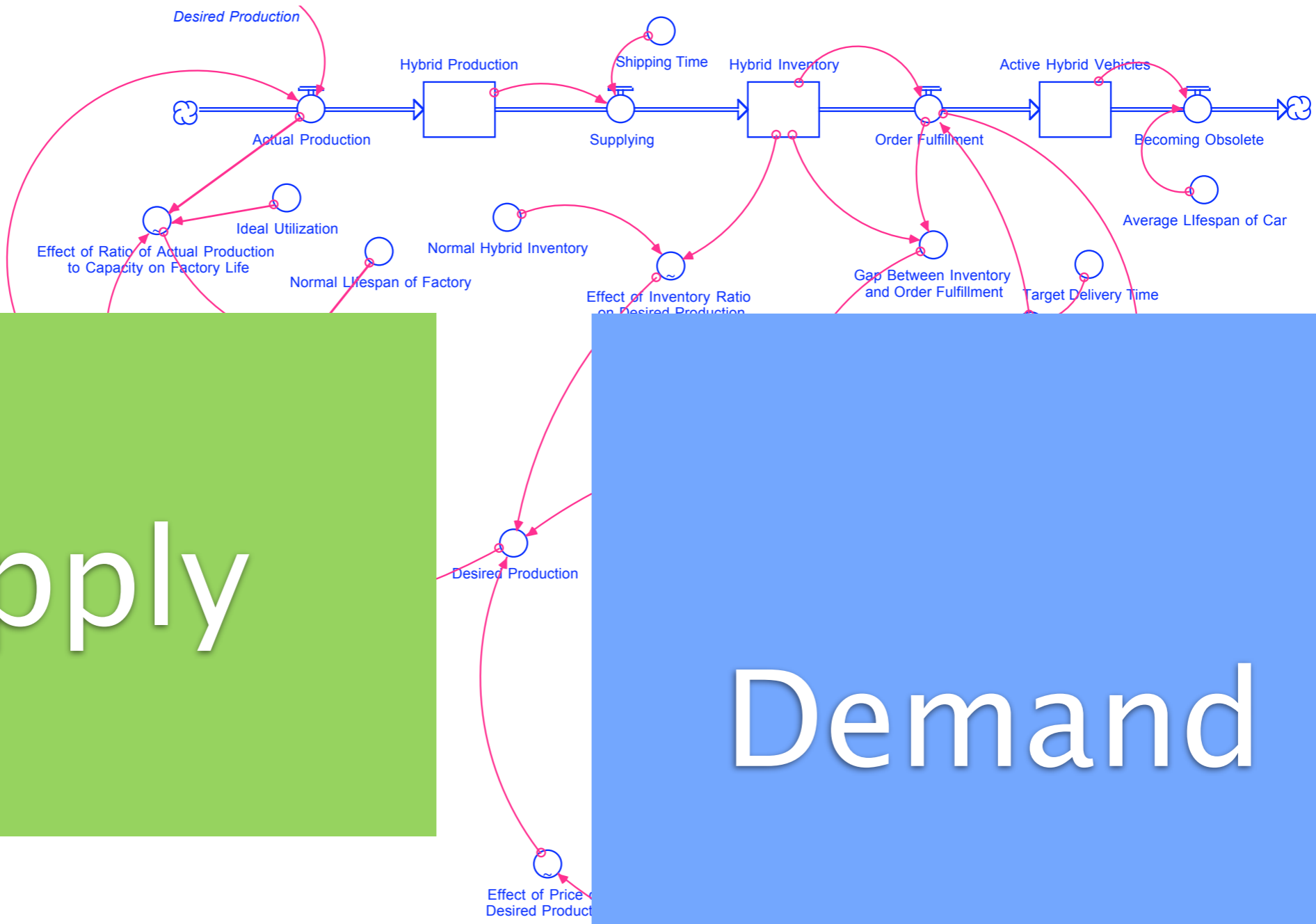
The Model

Three Main Parts



Supply

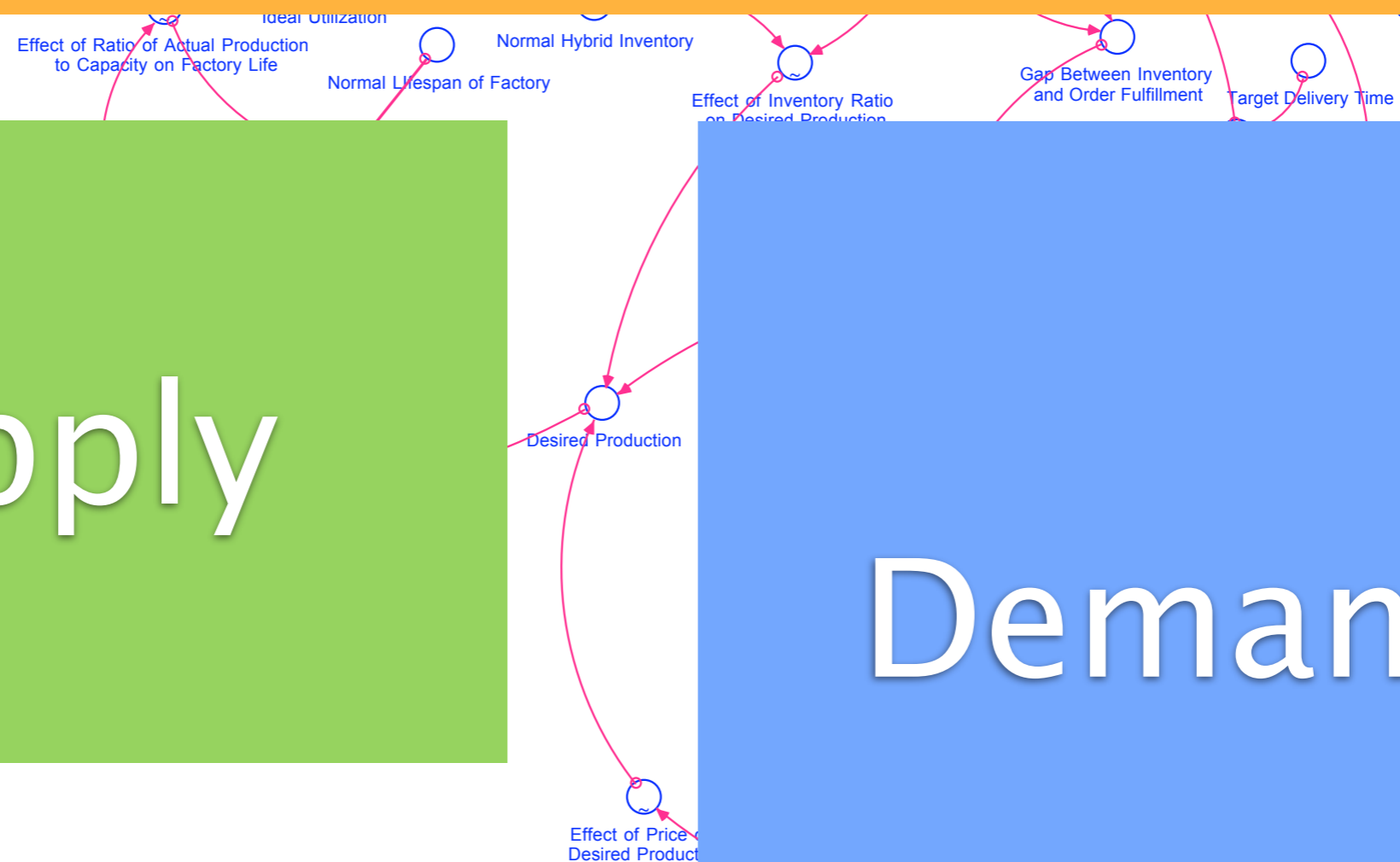




Market

Supply

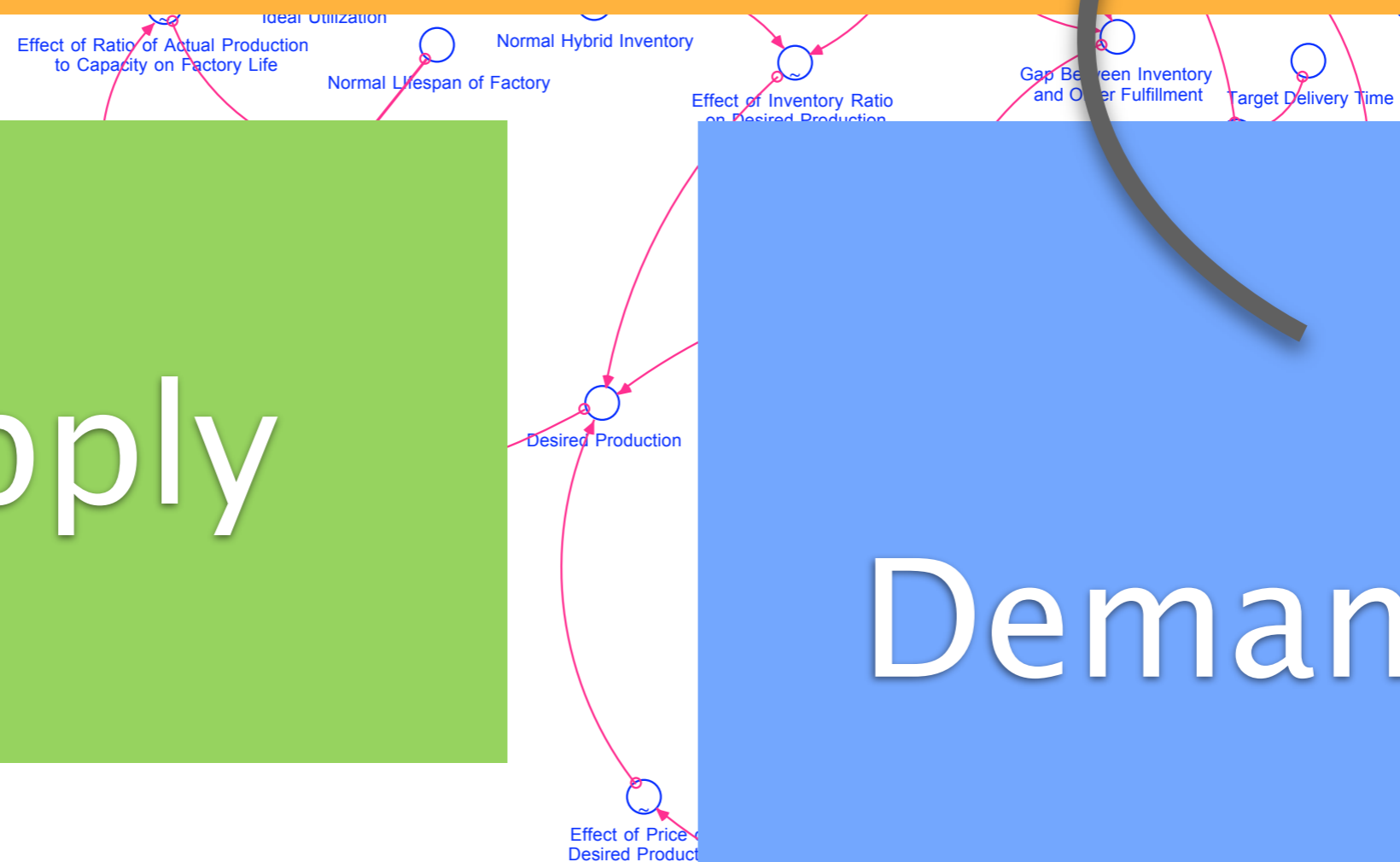
Demand



Market

Supply

Demand



Market

Supply

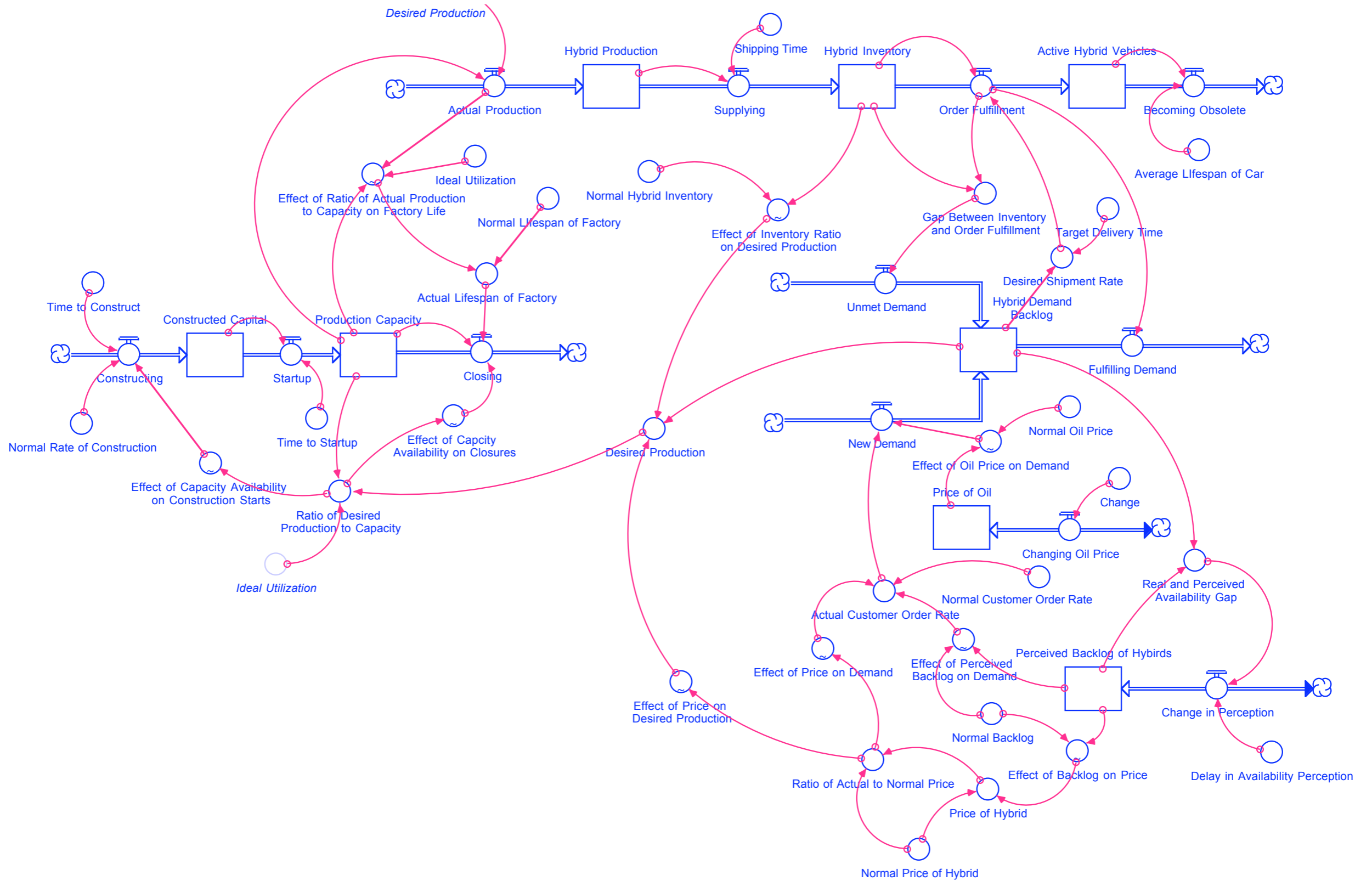
Demand

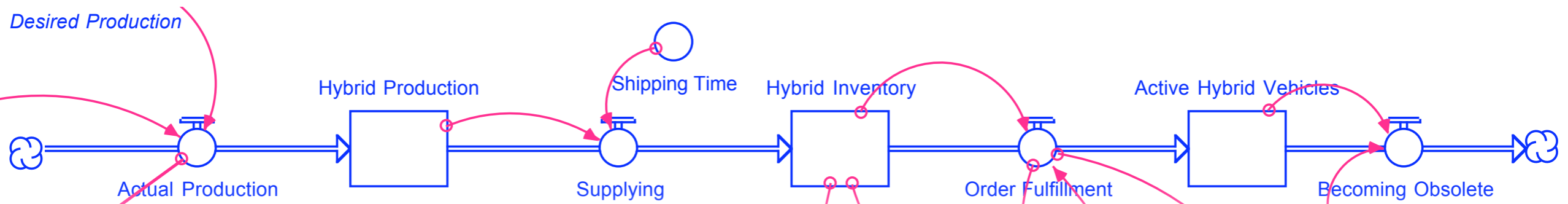
Ideal Utilization
Effect of Ratio of Actual Production to Capacity on Factory Life
Normal Lifespan of Factory
Normal Hybrid Inventory
Effect of Inventory Ratio on Desired Production
Gap Between Inventory and Order Fulfillment
Target Delivery Time

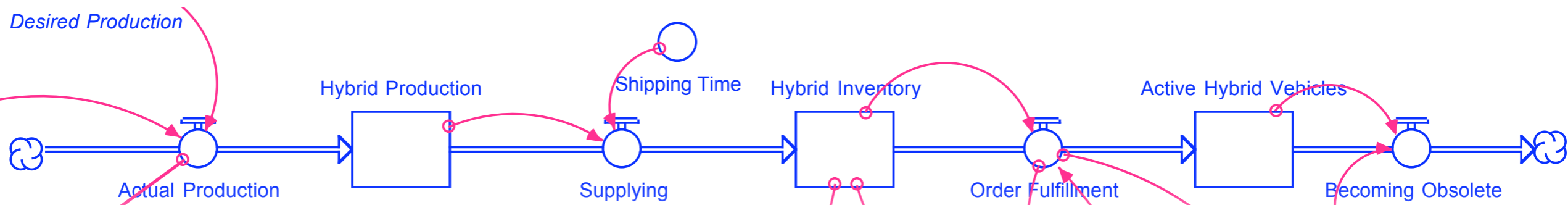
Desired Production

Effect of Price on Desired Product









Desired Production

Hybrid Production

Shipping Time

Hybrid Inventory

Active Hybrid Vehicles

Actual Production

Supplying

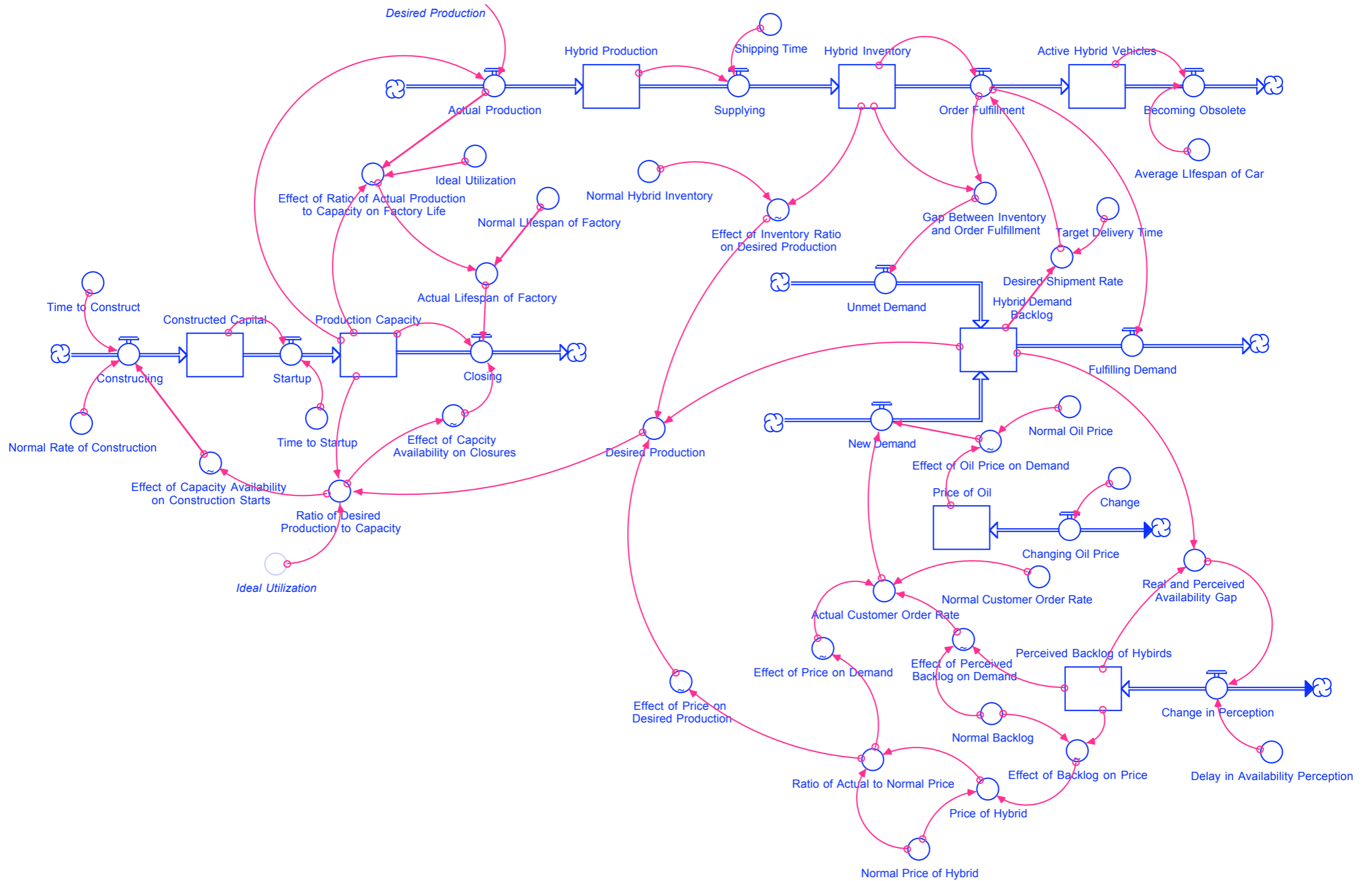
Order Fulfillment

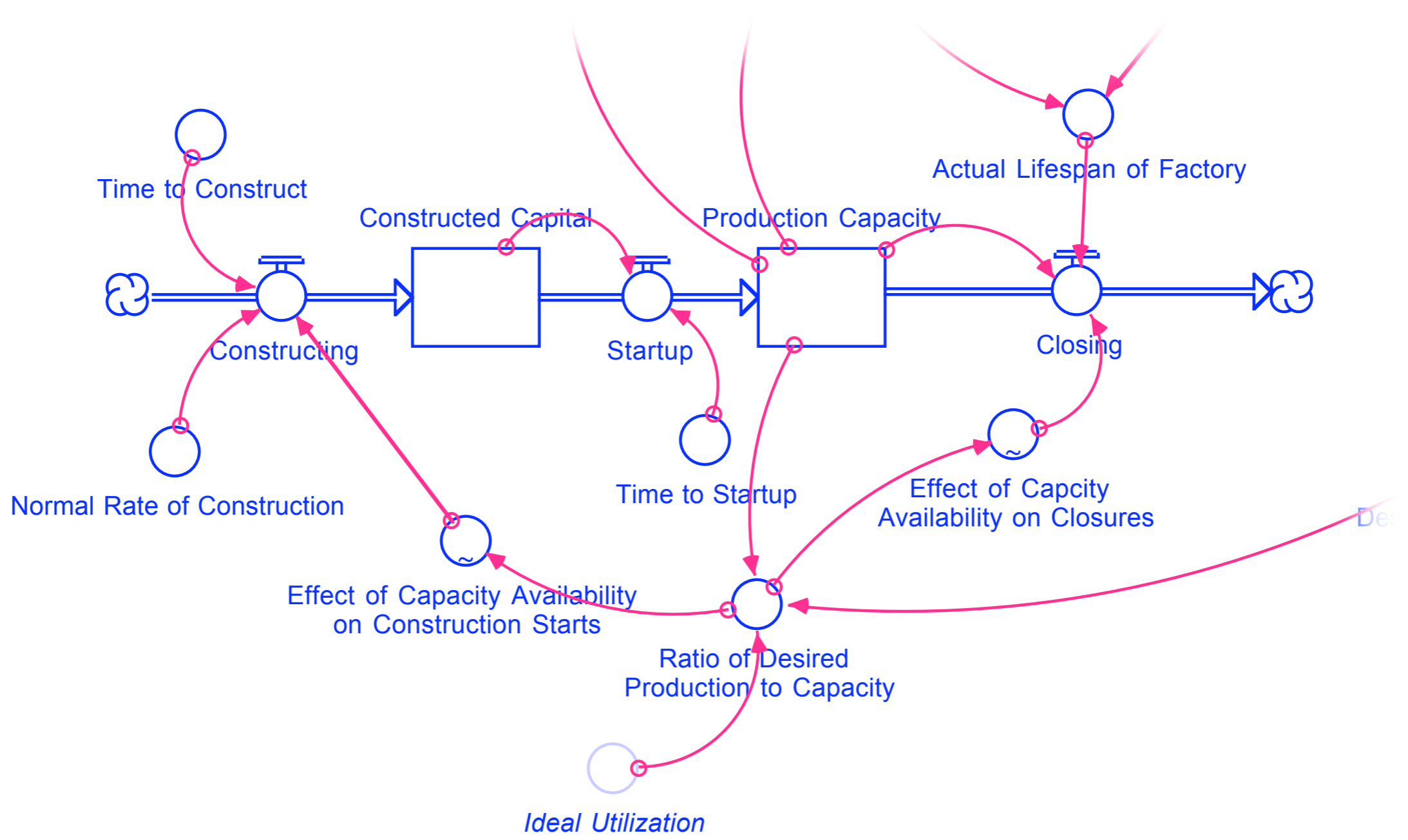
Becoming Obsolete

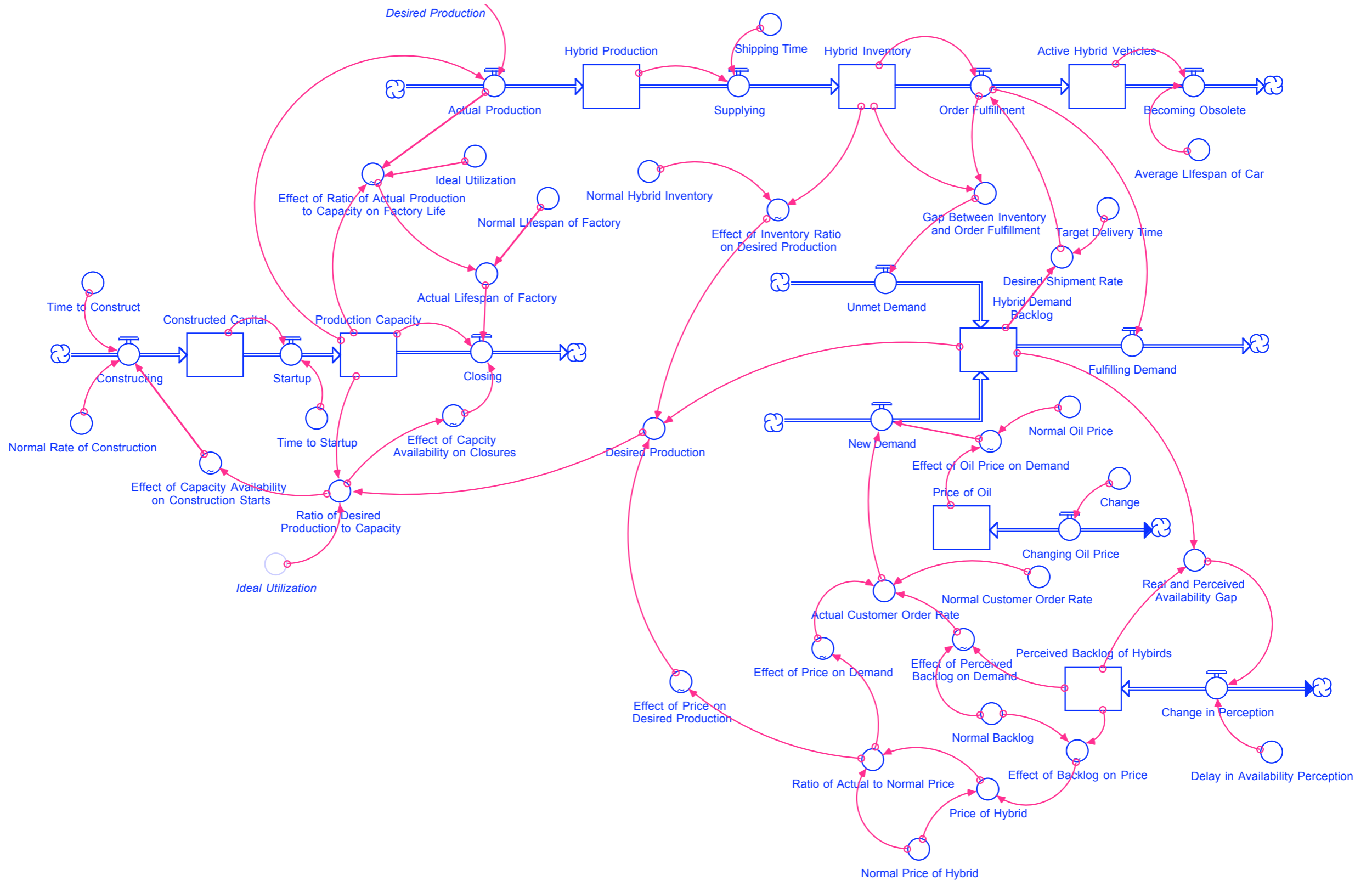
Inventory on Suburbs

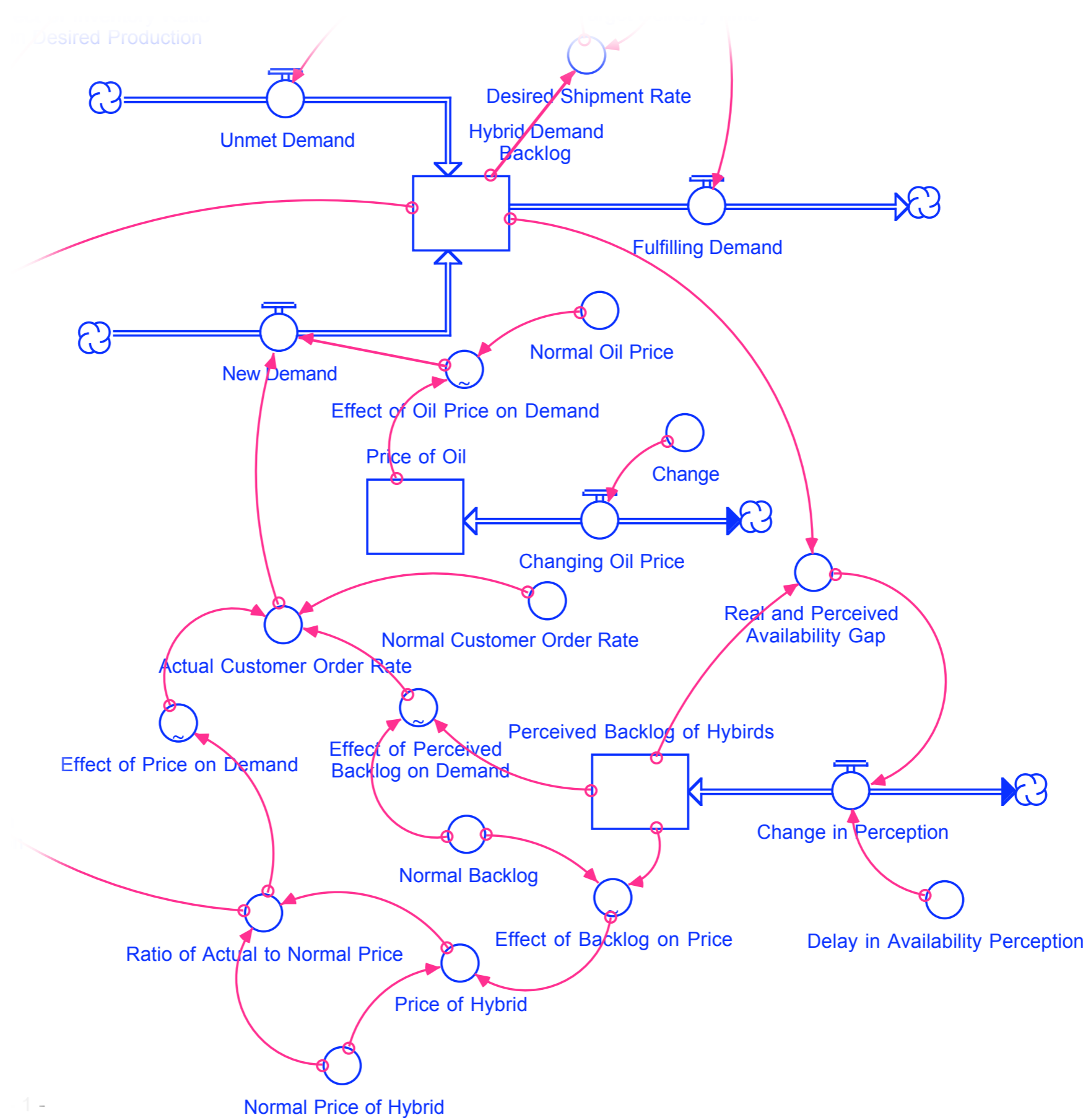
Used Car Market

Effect of Oil Price on Demand

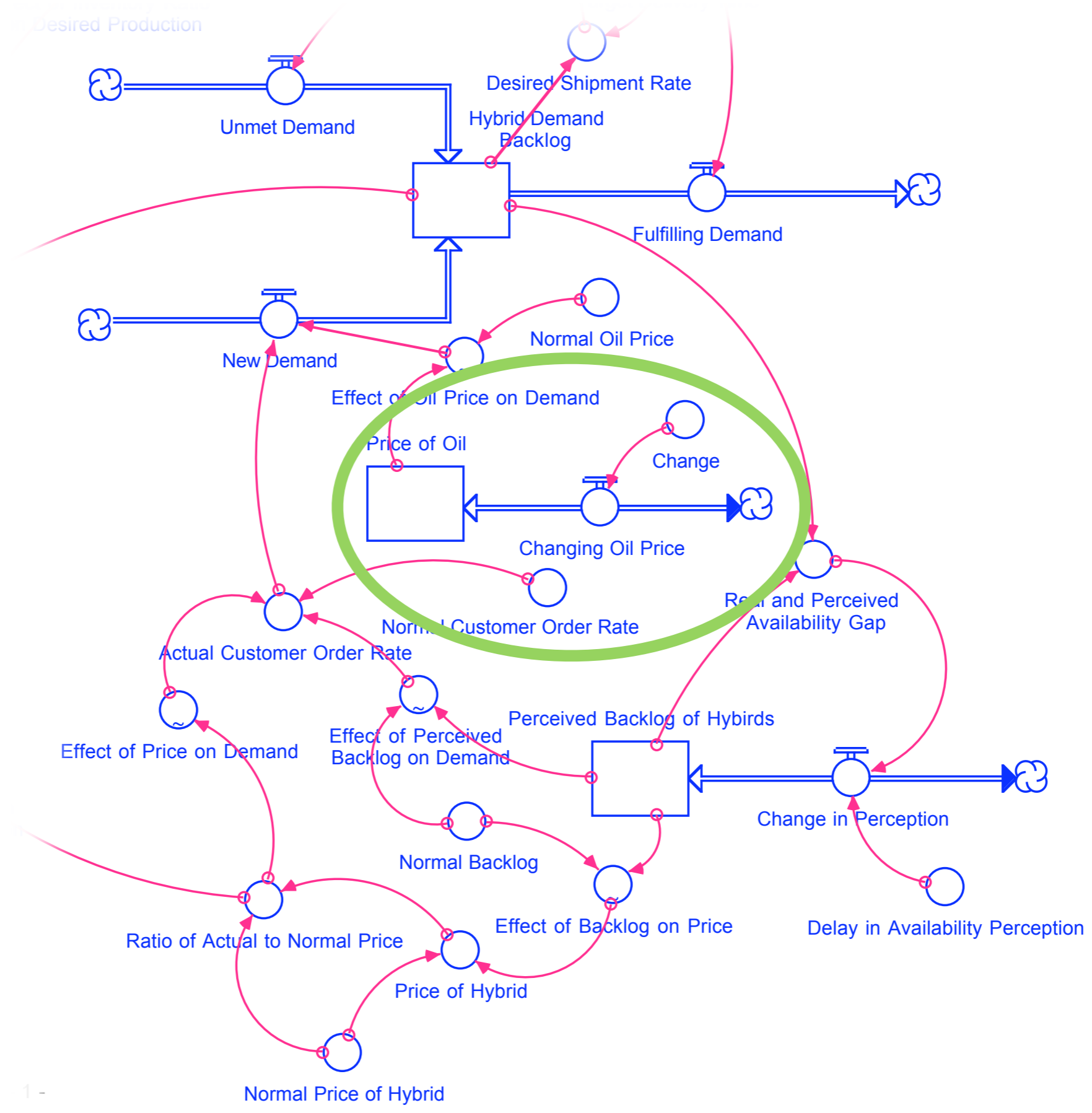




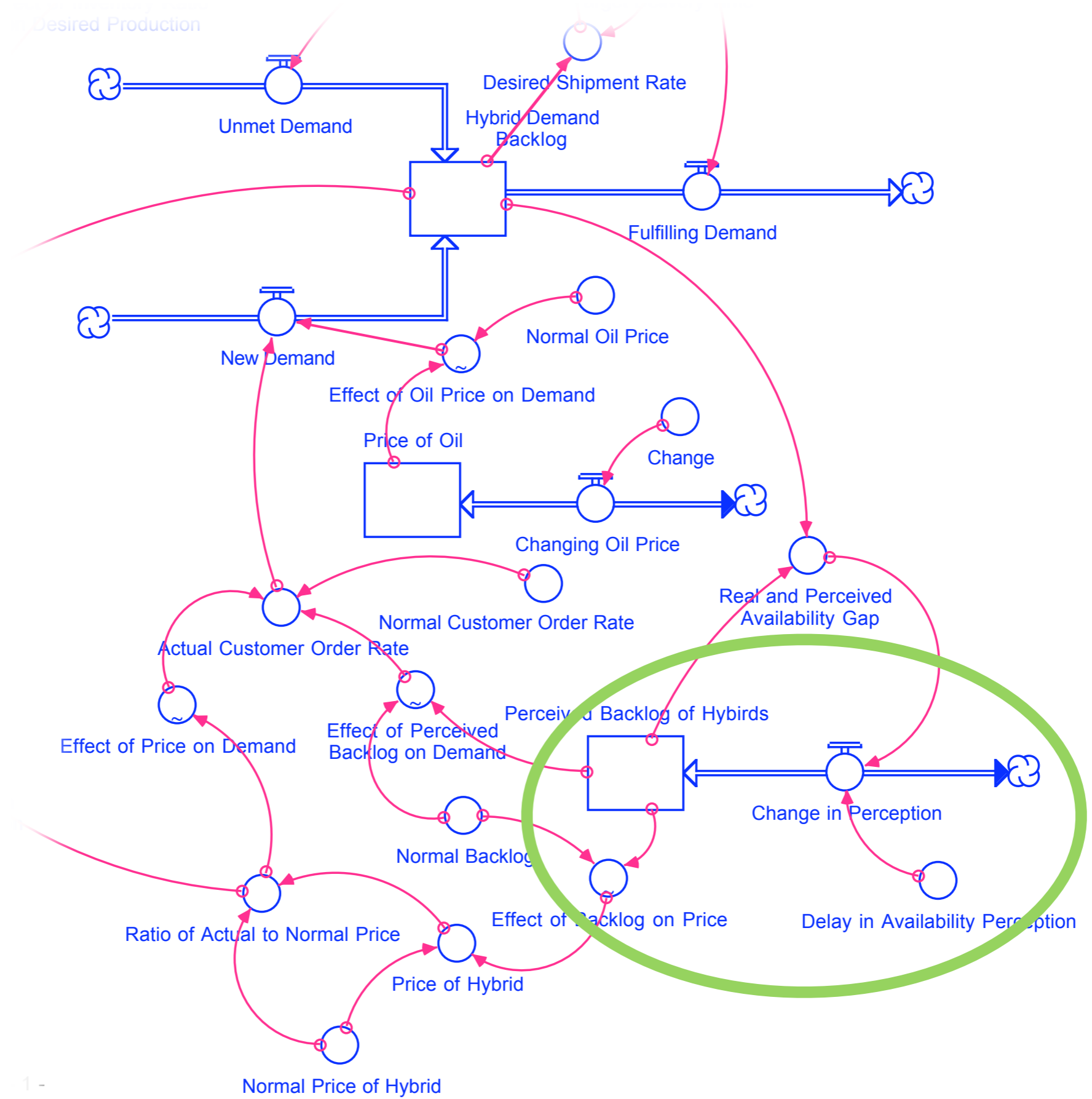




1 -

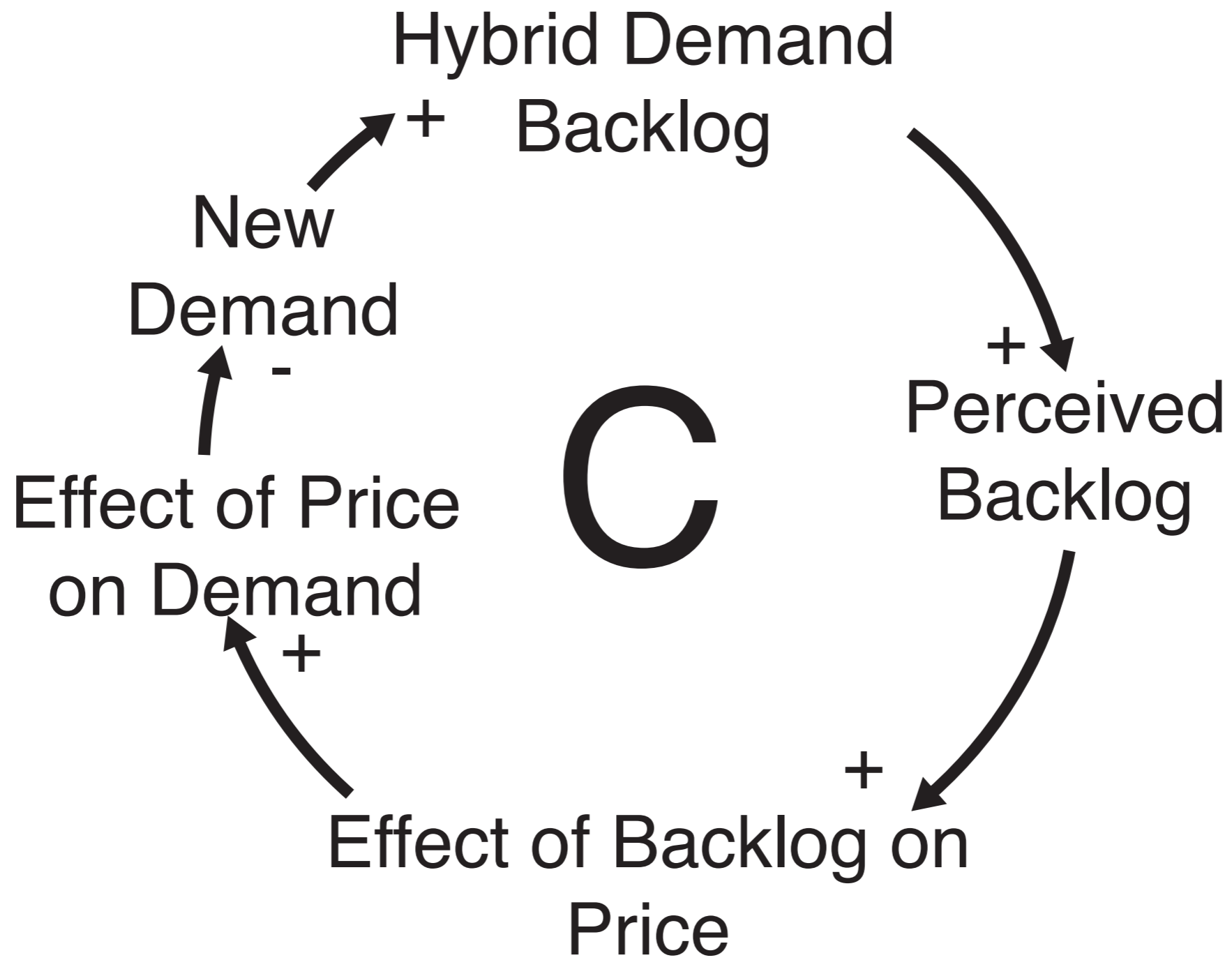


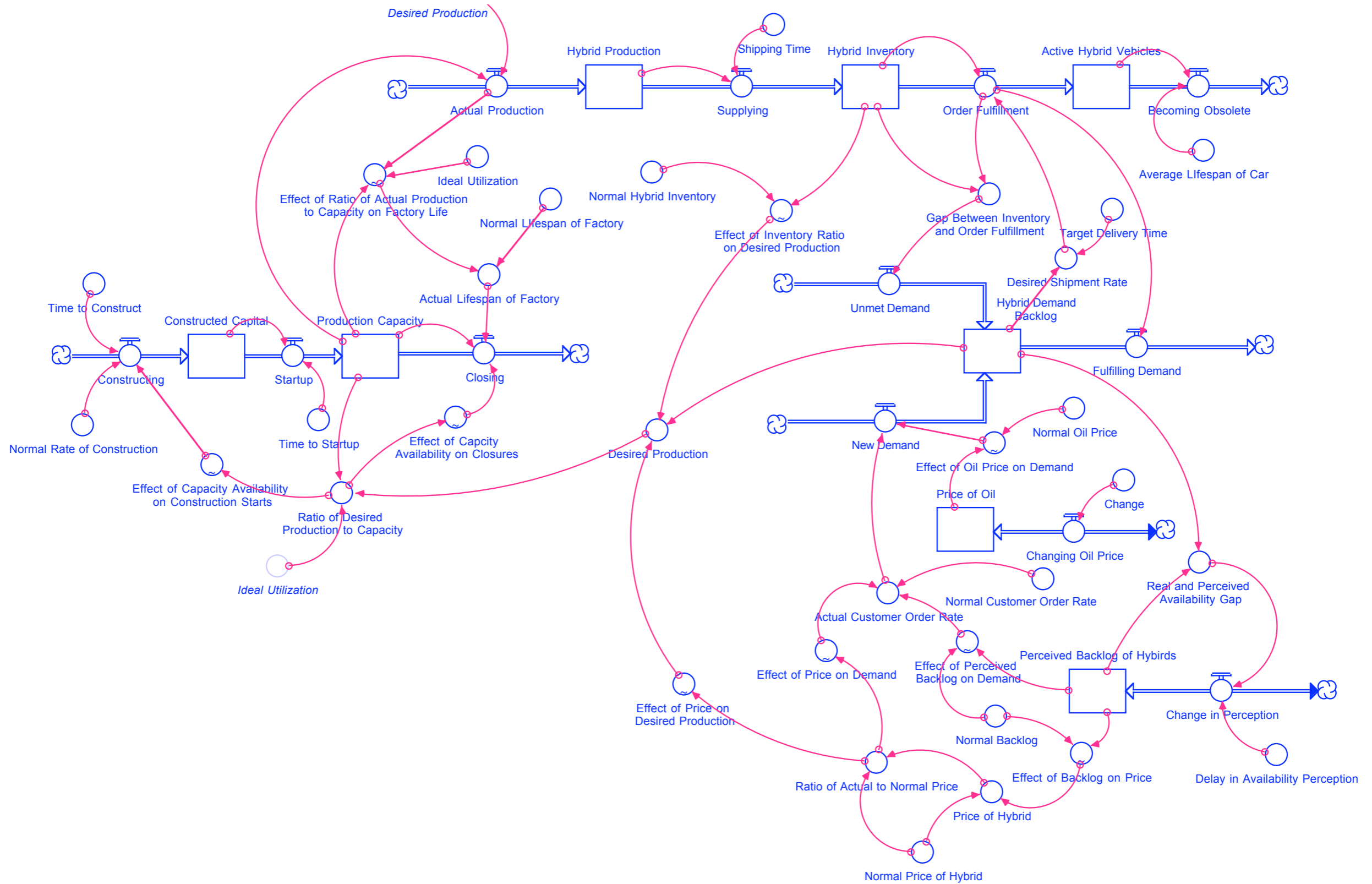
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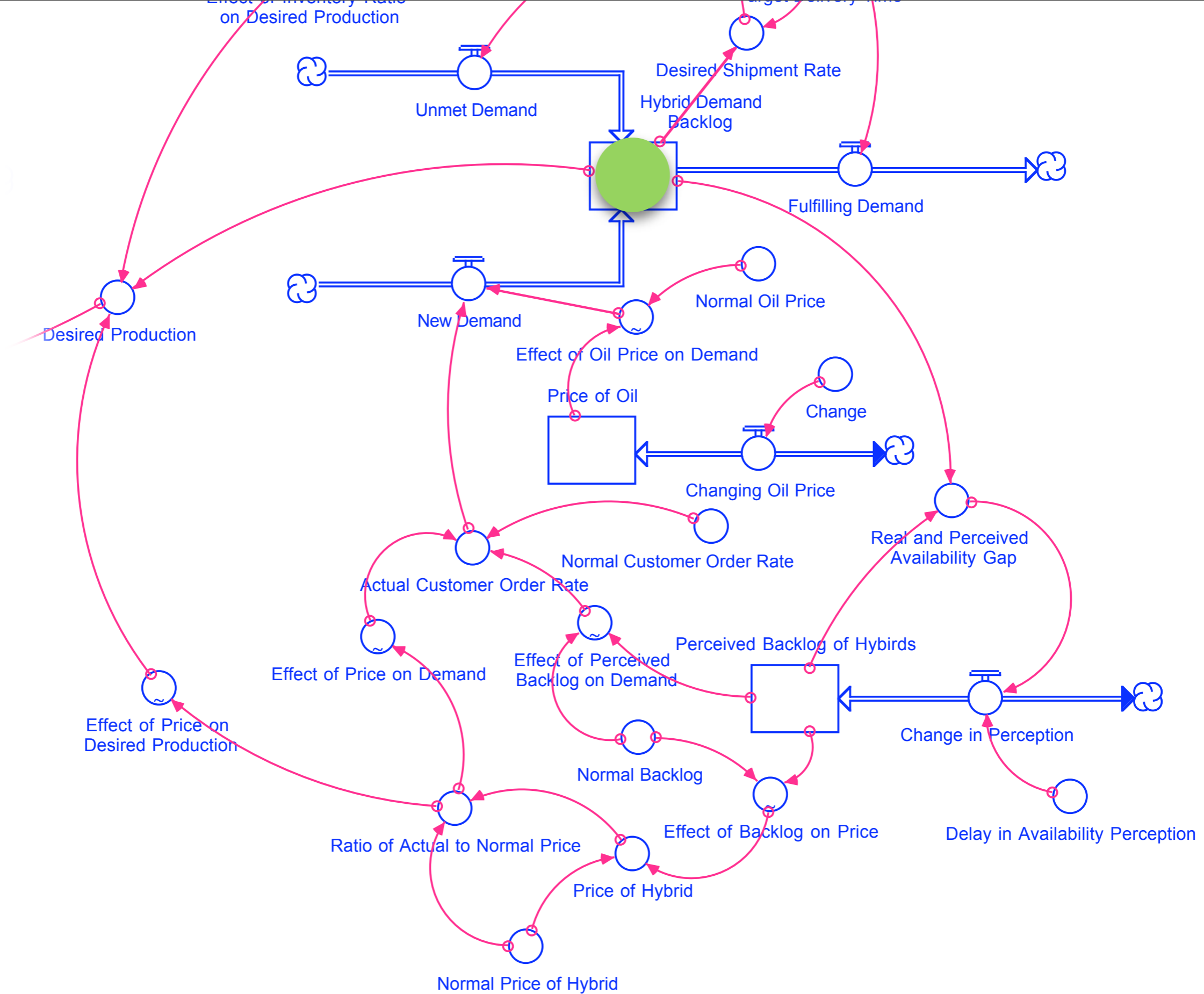


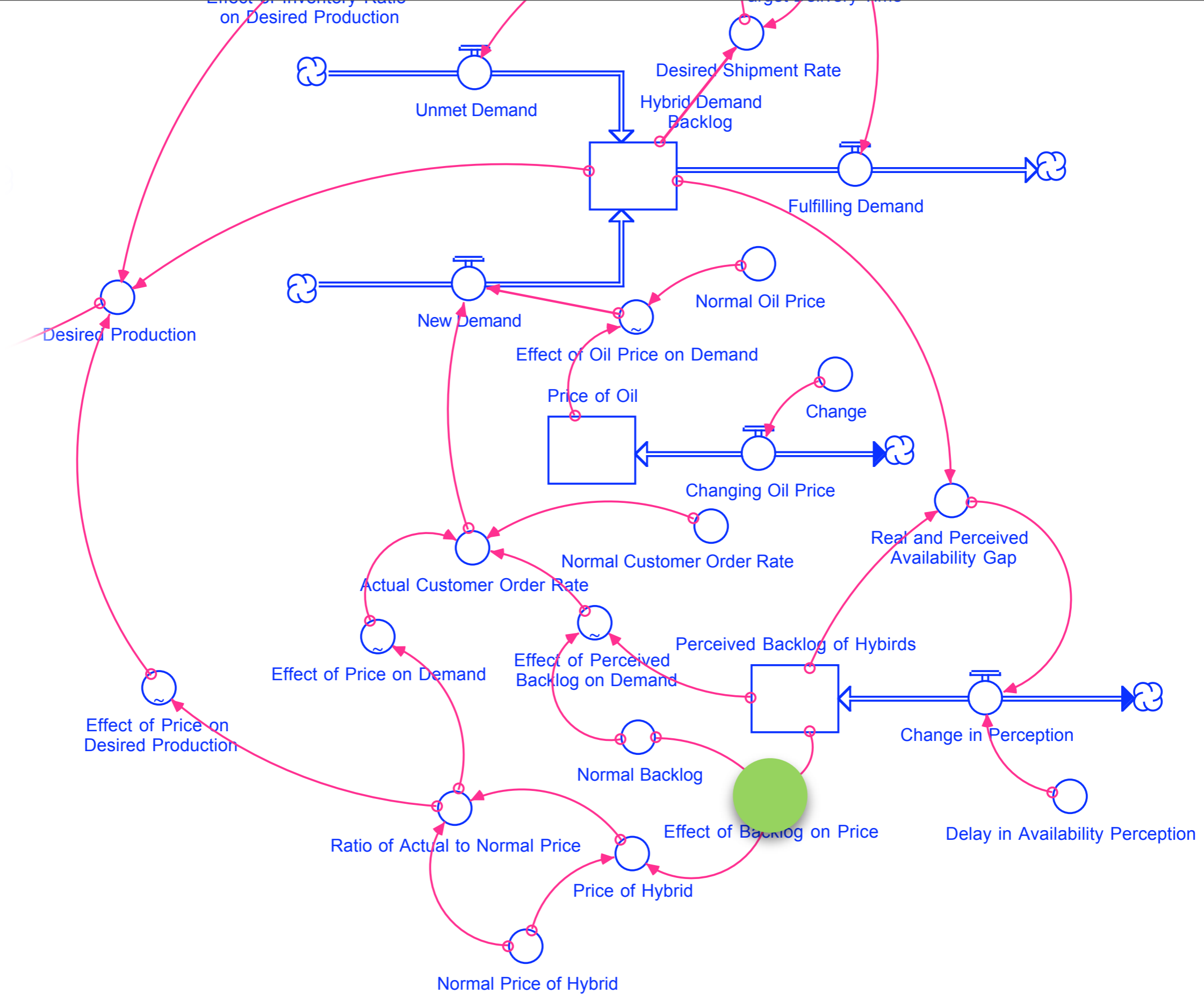
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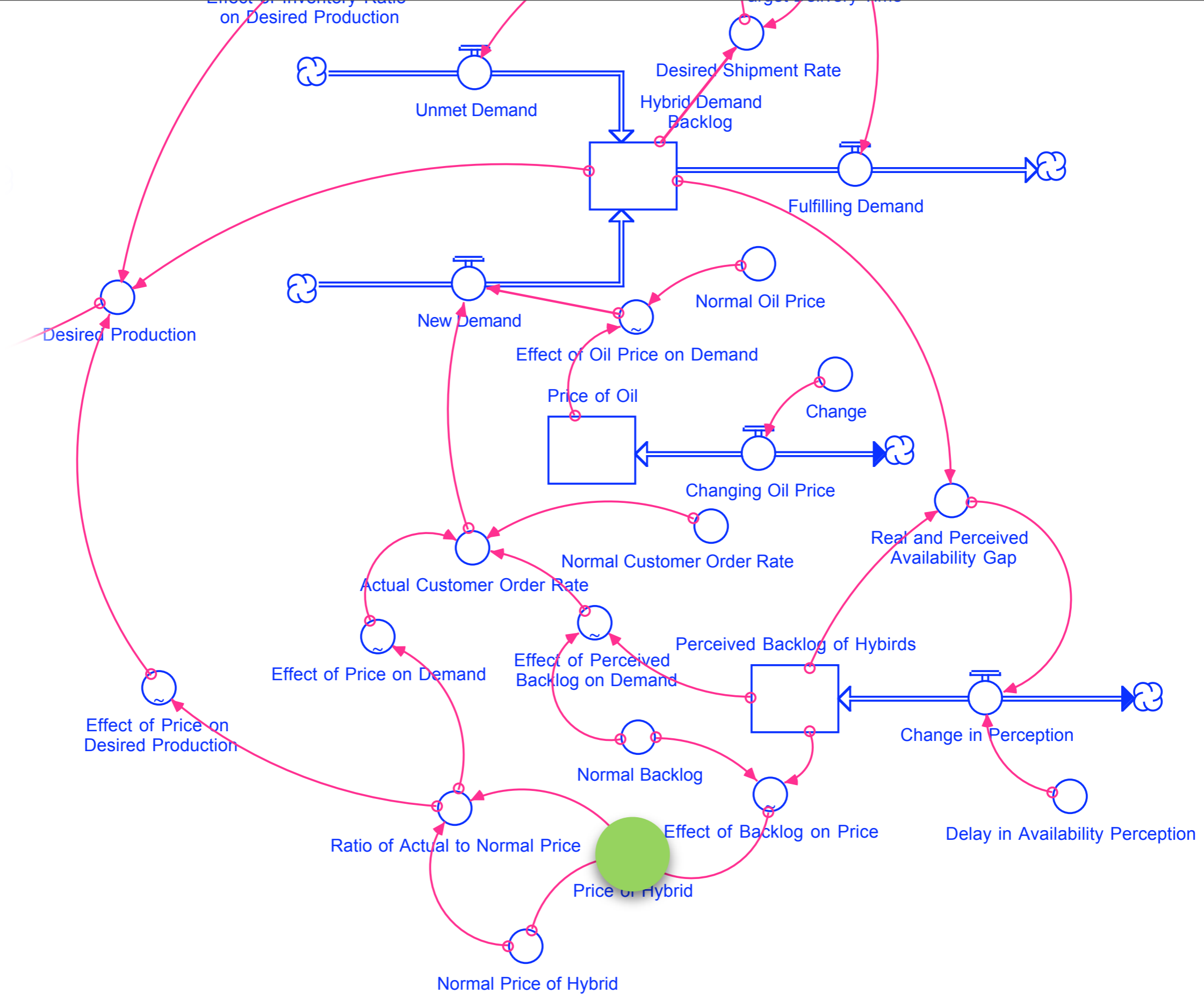
Price \Rightarrow Demand

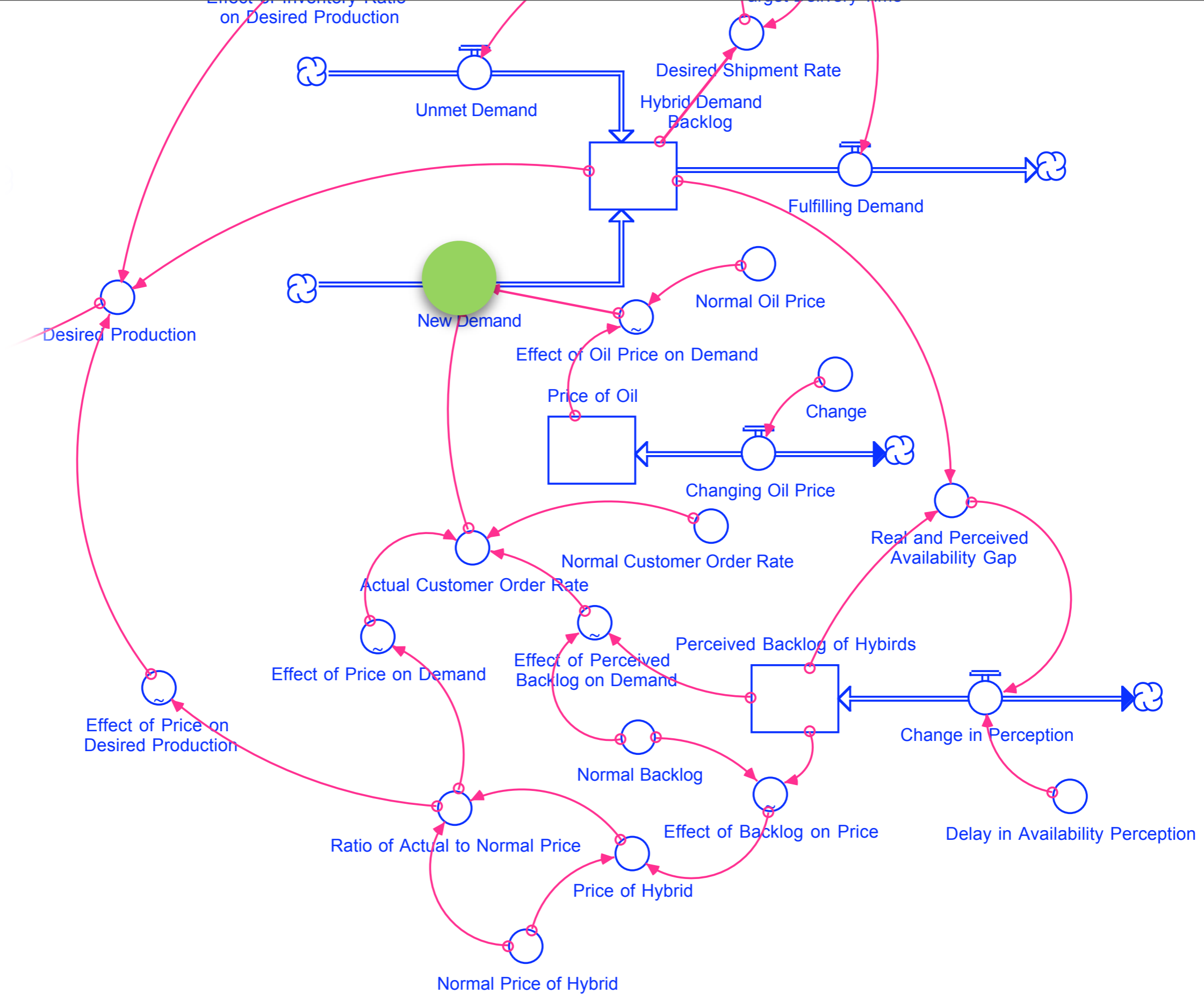












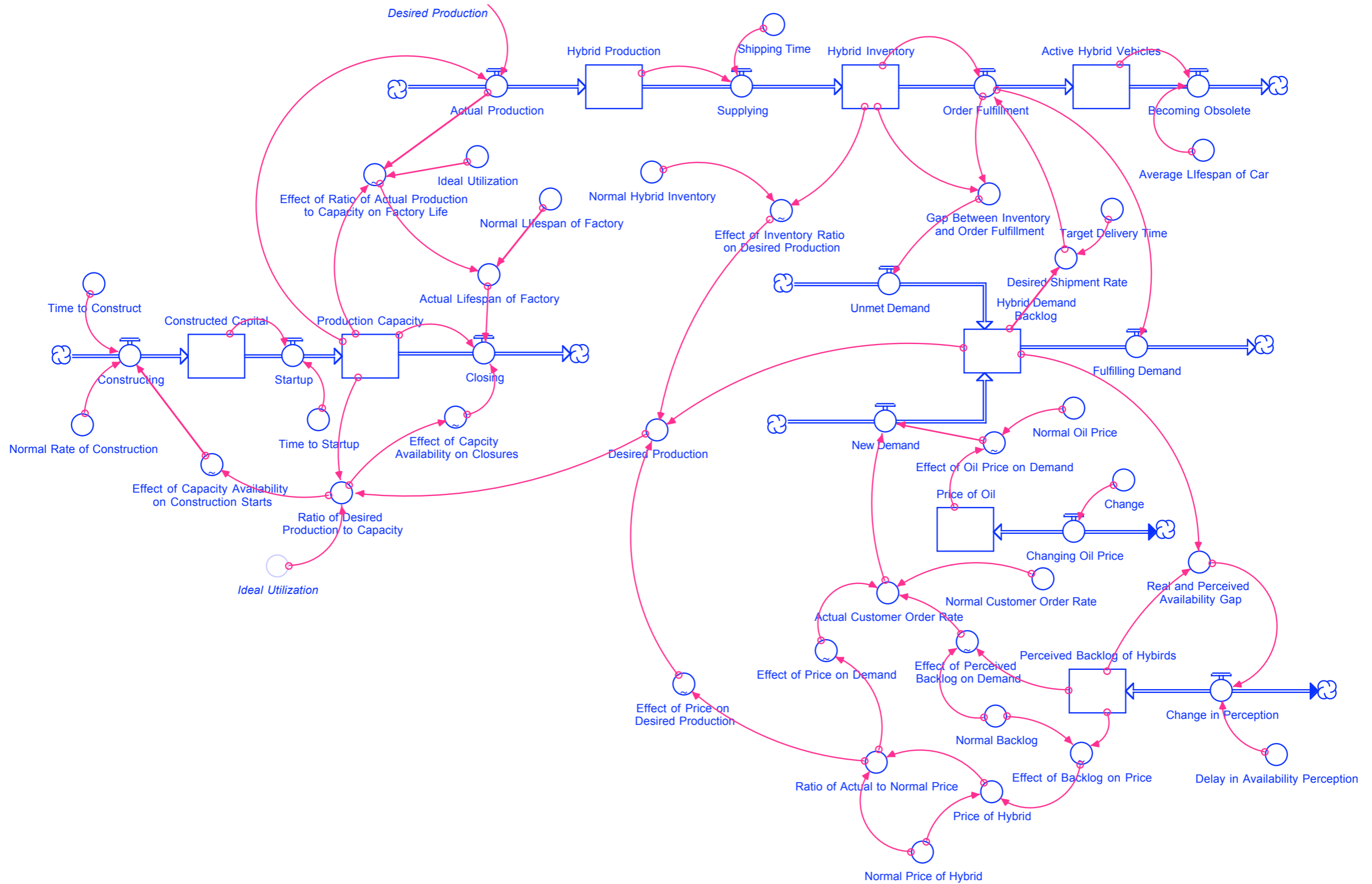
Now What ?

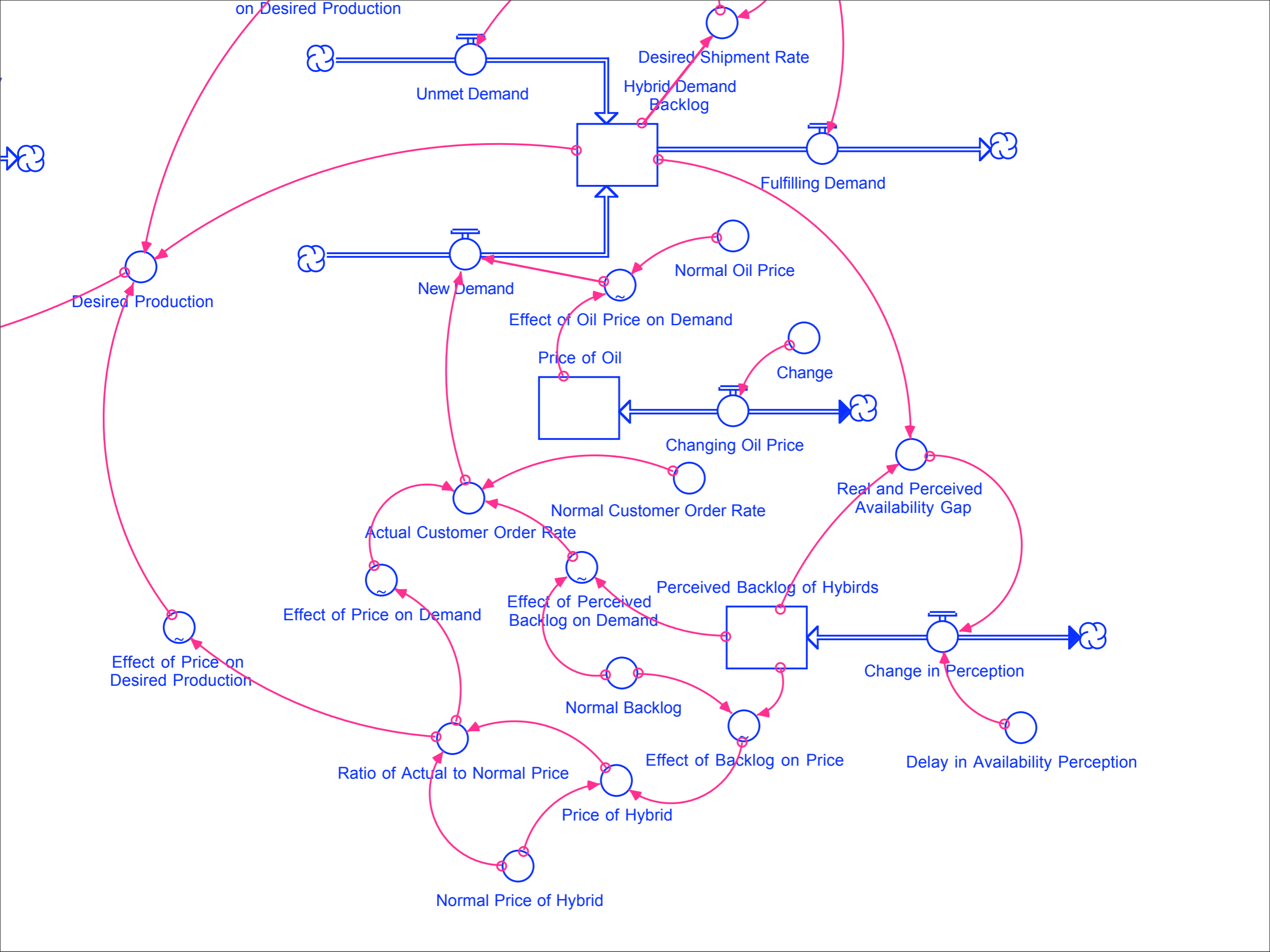
Global Warming

It's a problem !

CO₂ Emissions Play a Key Role

How can we encourage
people to drive
hybrids ?



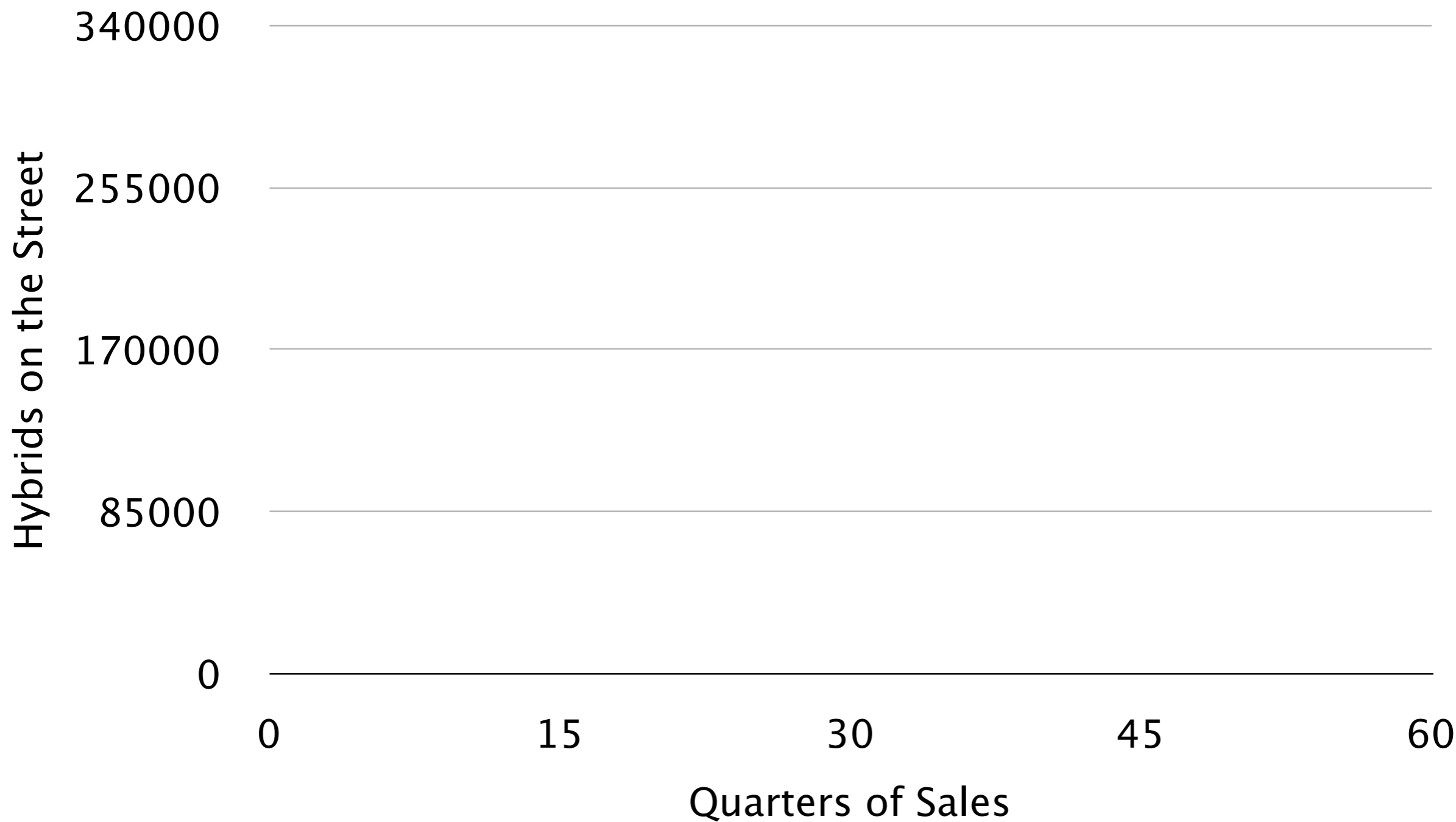


“Elasticity”

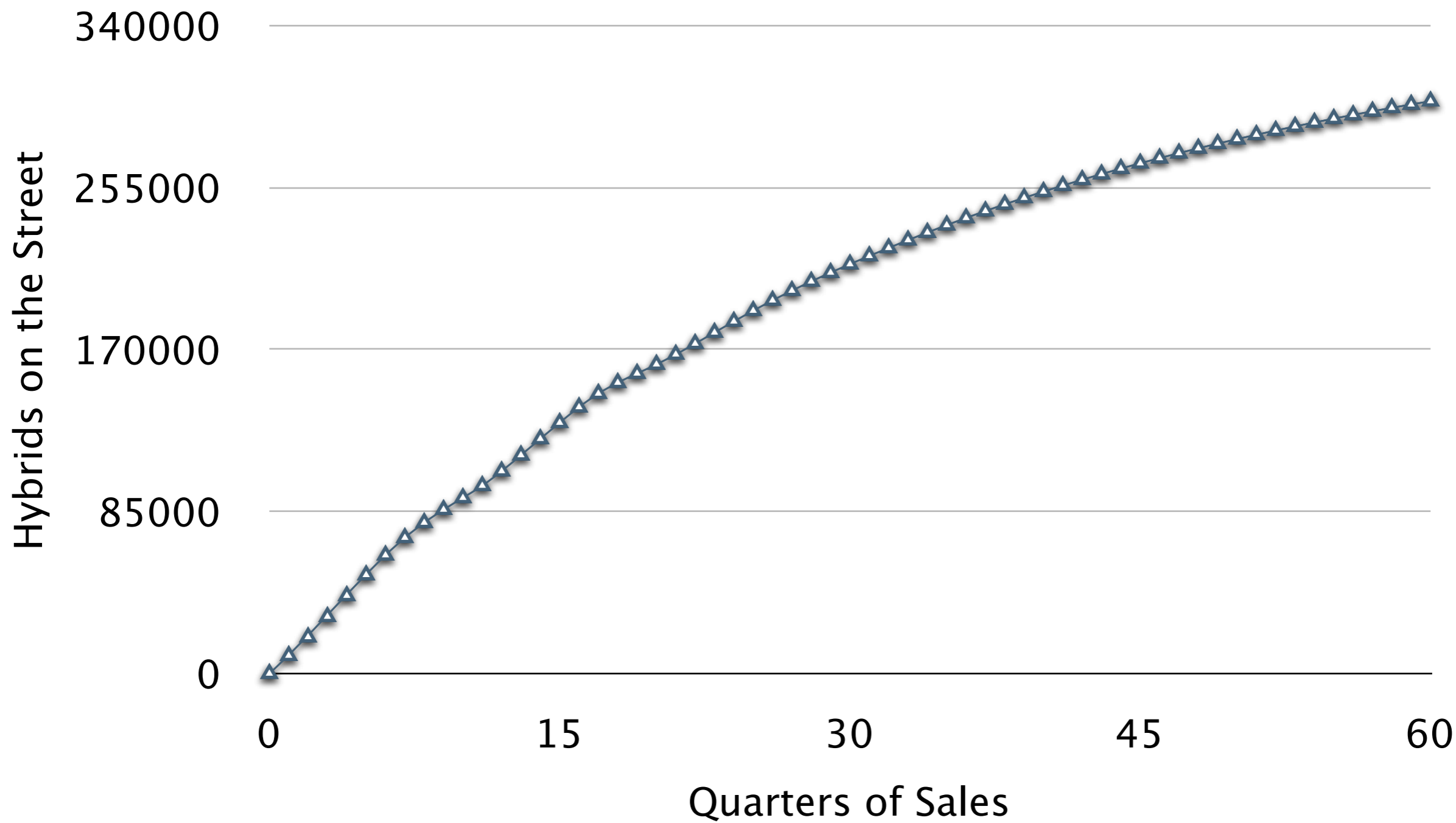
 Reference Run
 More Inelastic Demand

 Inelastic Demand

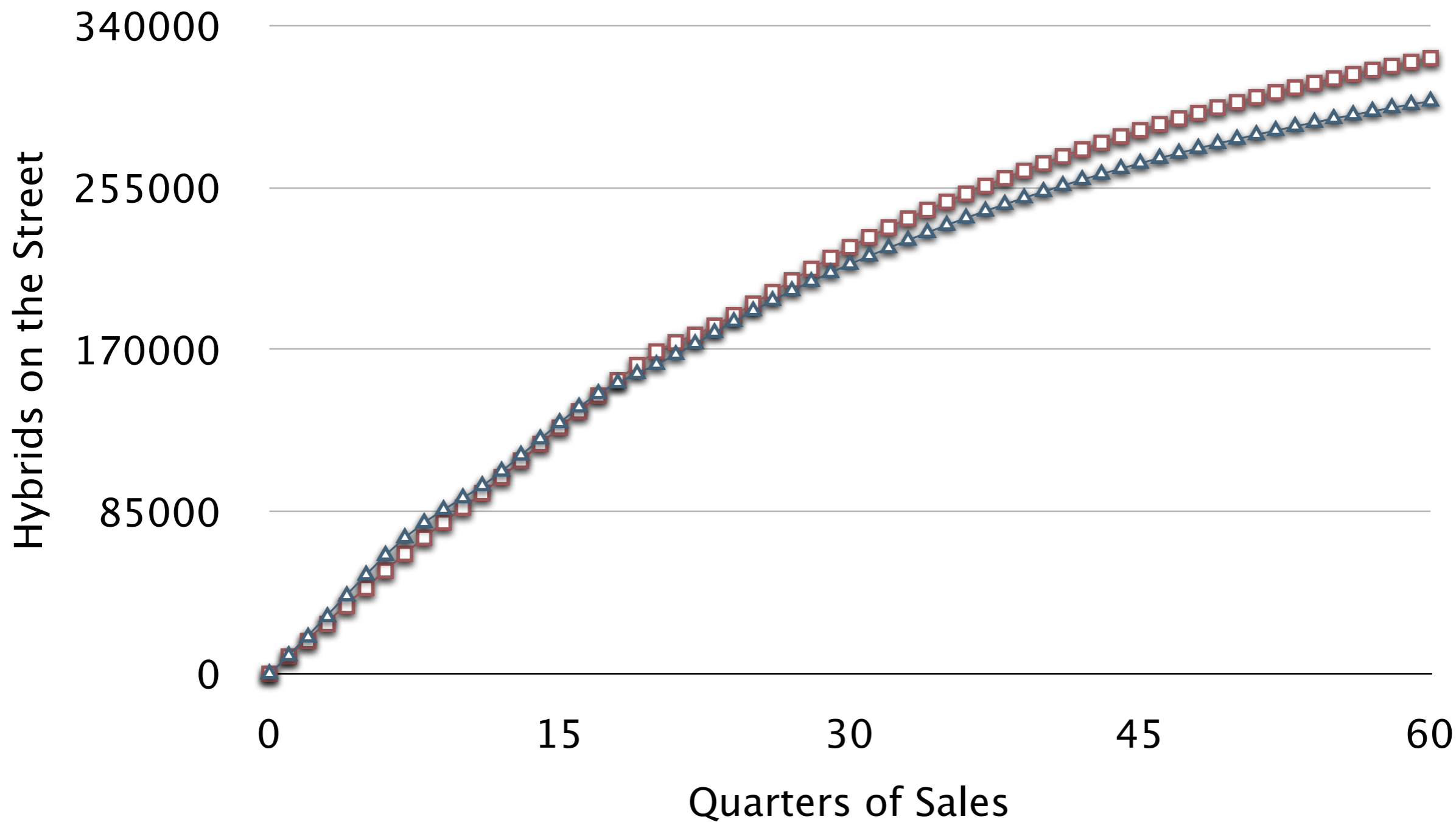
- △ Reference Run
- More Inelastic Demand
- Inelastic Demand



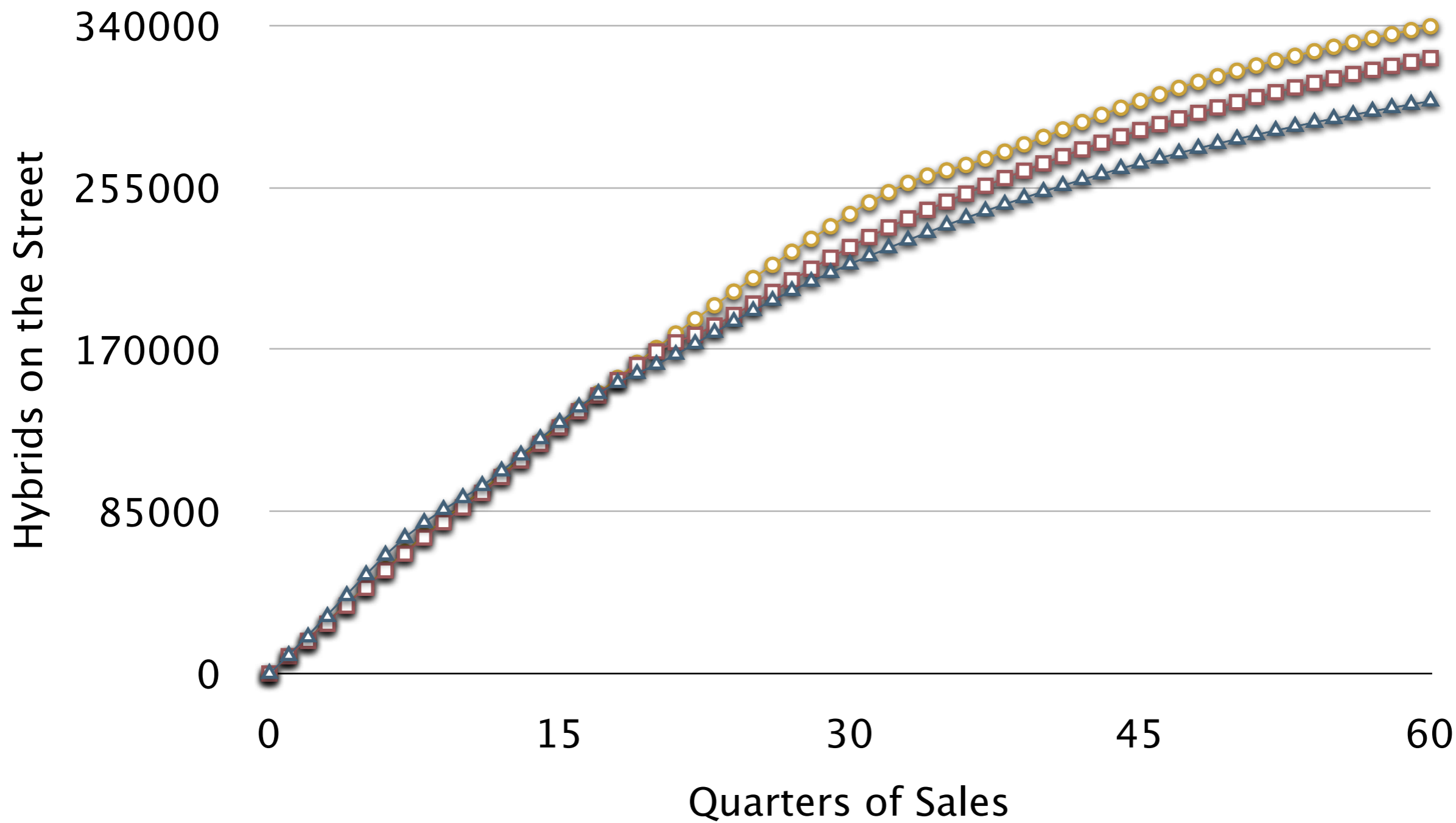
- △ Reference Run
- More Inelastic Demand
- Inelastic Demand



- △ Reference Run
- More Inelastic Demand
- Inelastic Demand



- △ Reference Run
- More Inelastic Demand
- Inelastic Demand



Reference	Inelastic	More Inelastic
300,388	322,938	339,660

Substitutes

Stability of Price

Percentage of Income

Necessity

Substitutes

Percentage
of Income

Necessity

Substitutes

Necessity

Substitutes

Substitutes

Thanks !

Questions ?