Collecting Data in a Jar*

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*No, really, one made of glass…

795 Samples

Cost to Aquire: $7.95

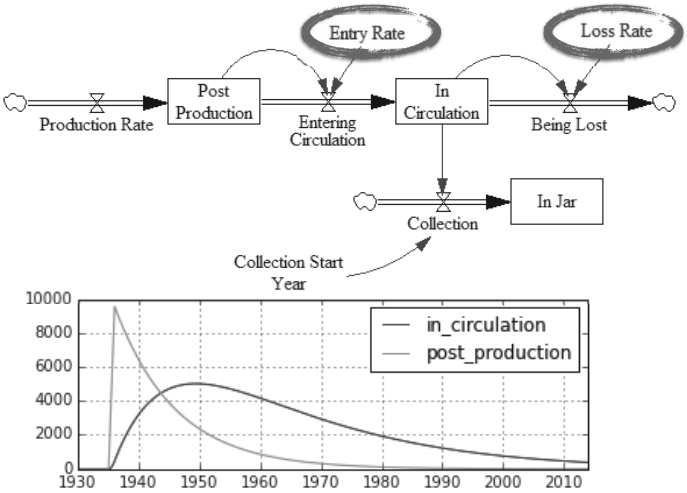
Production Figures

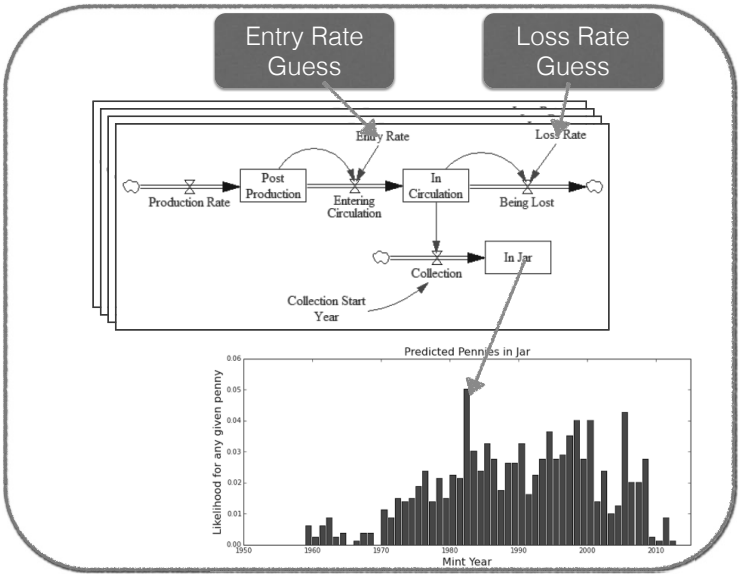
UNITED STATES MINT

Data 1911-2012

Year	Philadelphia Mint
1970	1898315000
1971	1919490000
1972	2933255000
1973	3728245000
1974	4232140523
1975	5451476142
1976	4674292426
1977	4469930000
1978	5558605000
1979	6018515000
1980	7414705000
1981	7491750000
1982	10712525000
1983	7752355000
…	…

One instance of the model per Mint Year
(101 independent models)

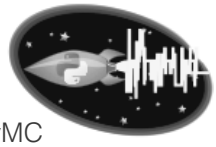




MCMC in 4 Bullets

Vensim

PySD

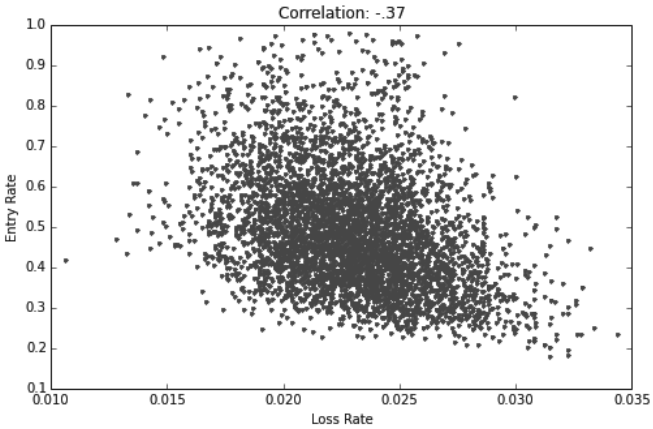


PyMC

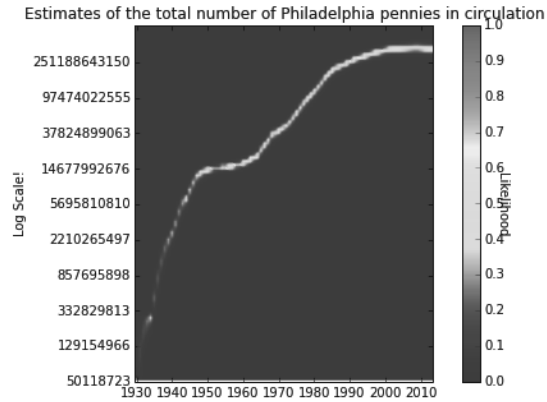
1. Run models
2. Generate distributions
3. Calculate likelihood of **data** given **guesses**
4. Choose whether to keep the guess based upon this likelihood

20k-100k

The points we kept!



Use parameters in regular Monte Carlo



Predicting ~270 billion pennies

How did we do?

Got Cents? Raising AIDS Awareness One Penny at a Time

Got Cents? » Penny Facts

Penny Facts

4. **How many pennies are currently in circulation?**

That's a tough one. As of 1998, the U.S. Mint was still producing 13 billion pennies per year, 1/2 of which seem to fall out of circulation within a year, only to find themselves in dresser drawers, penny jars and car ashtrays. This, together with the "take a penny, leave a penny" trays in retail stores suggests that there are so many pennies in circulation that no one really cares to make change with them. By the best estimates we've been able to locate, we think that there are somewhere between 200,000,000,000 and 250,000,000,000 pennies in circulation (or between $2 billion and $2.5 billion).Click here for an interesting article.