Transitioning from Scores to Universes

After producing probability scores, we transition into building universes. We have several different routes based on the number of models we built and the number or types of universes we are interested in creating. We have three main types of universes: universes built from two models, universes built from more than two models, and core action universes.

Universes from Two Models

The most basic universes are built from two models on opposite sides of an issue. We begin by taking the net score of the models.

Model A – Model B = Net Model A

After building the net score, we determine how many flags/universes we want to create. If we are interested in two universes that are mutually exclusive and collectively exhaustive, we will simply put individuals with a positive net score in one universe and those with a negative net score in another.

Flag A = Model A – Model B > 0
Flag B = Model A – Model B < 0

If we are interested in three universes that are mutually exclusive and collectively exhaustive, we will often determine a positive and negative cut off that produces a supporter, opposer, and persuasion universe. We typically use a cut off between 0 and 0.3 on the positive and negative side. Ideally, we will use the same absolute value for all cut offs.

Flag A = Model A – Model B > 0.2
Flag AB Persuasion = Model A – Model B < 0.2 & Model A – Model B > -0.2
Flag B = Model A – Model B < -0.2

Occasionally, an issue will be so lopsided that we will need to use 0 as one of the cut points. In this case, we create a Strong, Weak, and Opposer universe. The first cut off is 0 and the second cut off is typically between 0.1 and 0.3.

Flag A Strong = Model A – Model B > 0.2
Flag A Weak = Model A – Model B > 0 & Model A – Model B < 0.2
Flag B = Model A – Model B < 0

Universes from More Than Two Models

Our strategy changes a bit with more than two models. In this situation, we usually place people in universes based on their highest model score.

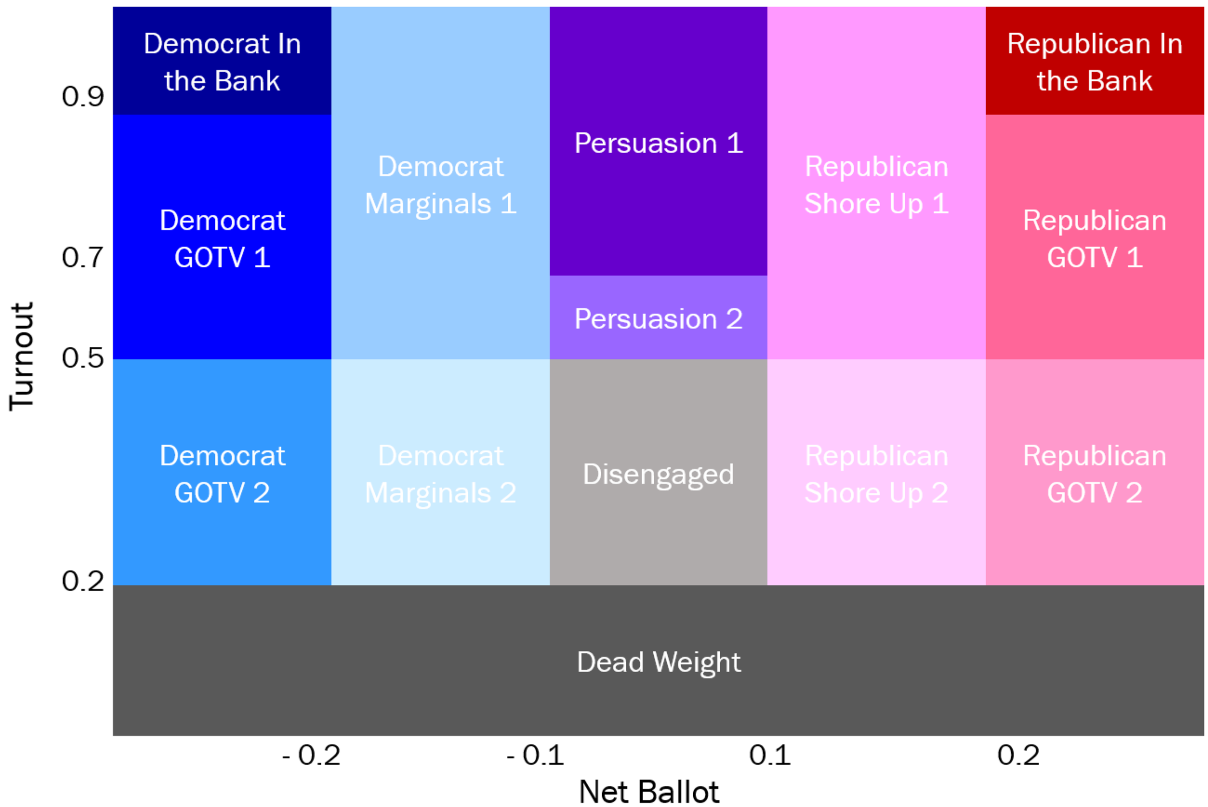
Flag A = Model A > Model B & Model A > Model C
Flag B = Model B > Model A & Model B > Model C
Flag C = Model C > Model A & Model C > Model B

If we believe that the model scores contain certain systemic biases that render them very lopsided and do not reflect reality, we may add or subtract a small amount to/from the scores to create more balanced universes.

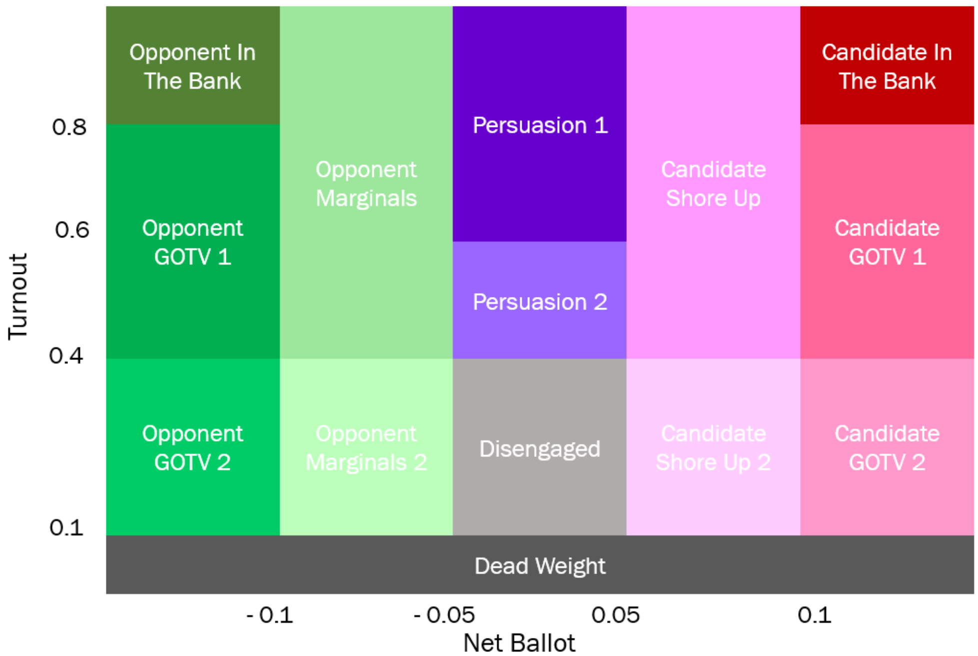
Flag A = Model A (+0.02) > Model B & Model A (+0.02) > Model C
Flag B = Model B > Model A (+0.02) & Model B > Model C
Flag C = Model C > Model A (+0.02) & Model C > Model B

Core Action Universes

Our core action universes are a combination of turnout and ballot. The graph below demonstrates our typical core action universe structure and cut offs in a general election.



In a two-way primary election, our core action universes follow a similar structure to the general election universes. However, we typically cut dead weight at 0.1 and use net ballot cut offs closer to zero.



A three-way primary is significantly more complicated. We use the Fleur de Guerre © when working with multi way primaries. These universes are an extension of the standard 14 core action universes. Although many universes are created, there are very few cut offs.

We begin by creating turnout cutoffs. Two cutoffs are needed. The first determines the maximum dead weight/minimum GOTV, and the second, higher cutoff, determines the maximum GOTV/minimum ITB/minimum persuasion. Our typical ITB lower bound is 0.8 and our typical Dead Weight upper bound is 0.1.

At this point, you can make the Dead Weight universe, using only this turnout threshold.

For each candidate, we then build an ITB universe and a GOTV universe. For ITB and GOTV, the net ballot requirements need to be satisfied in comparison to both the other candidates. For example, candidate A must be at least 0.1 greater than candidate B, and candidate A must be at least 0.1 greater than candidate C. Although the cut offs can vary, we typically require the net score difference between candidate to be between 0.1 and 0.2.

Next, for each pair of candidates we build a Persuasion universe. The turnout threshold for the Persuasion universes is typically between 0.2 and 0.3. When constructing these universes, we only include voters for whom the pair of candidates are the voter's two highest scoring candidates; thus, these are called "Decider" universes.

To be classified as deciding between two candidates, the maximum absolute value of the net between them needs to be below a certain number. This number must be the same as the lower bound of the net score of the GOTV or ITB universe, as that will ensure that these Persuasion universes are located right below the ITB and GOTV universes. As we typically use 0.1 to 0.2 to determine our ITB and GOTV groups, the threshold for deciders is typically between 0.1 and 0.2.

The final Persuasion universe is for people deciding between all three candidates. In this case, the absolute value of their net scores is within the decider threshold for every combination of candidates. Again, this is typically between 0.1 and 0.2.

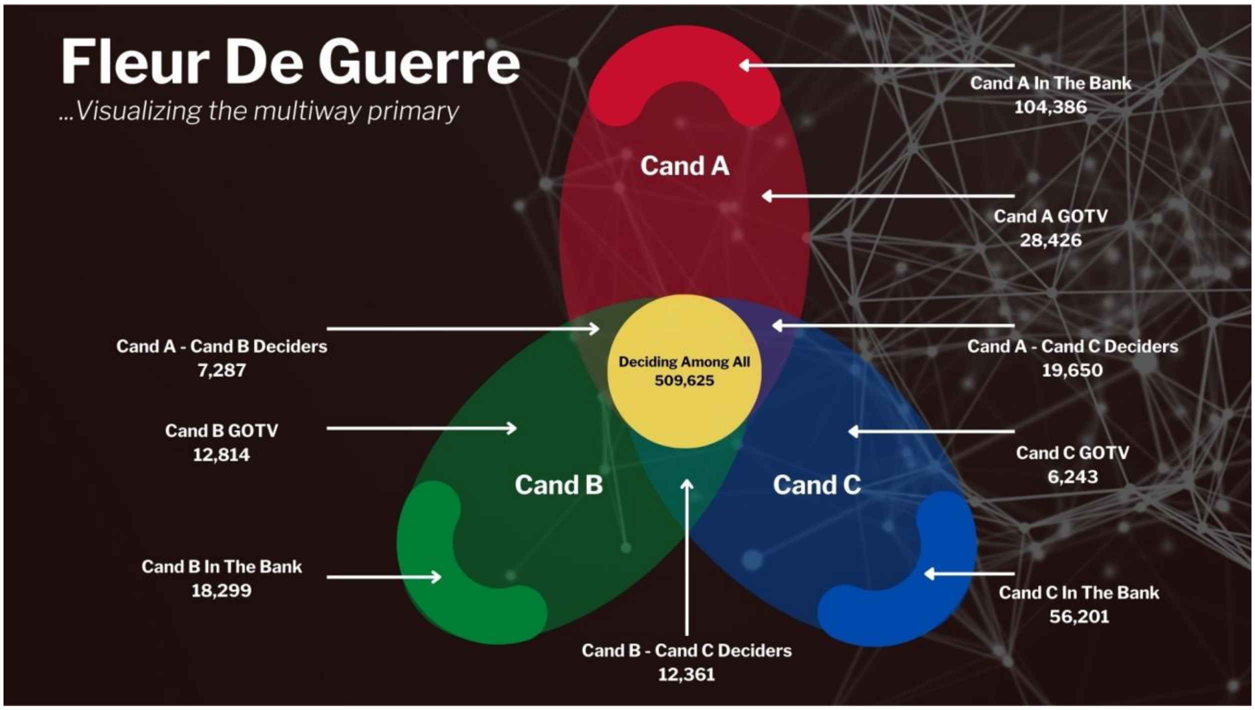
At this point, you should have an ITB, GOTV, and Persuasion universe for every candidate. The final universe is Disengaged. The easiest way to create Disengaged is to include anyone who is not currently in a universe. These voters will typically have a turnout score between 0.1 (the Dead Weight cut off) and 0.3 (the Deciding Between cut off). They will also have a net ballot score less than 0.1 (the ITB/GOTV ballot cut off) for at least one set of candidates.

The final set of universes is as follows:
Candidate A – ITB
Candidate B – ITB
Candidate C – ITB
Candidate A – GOTV
Candidate B – GOTV
Candidate C – GOTV
Candidate A and B Deciders
Candidate A and C Deciders
Candidate B and C Deciders
Candidate A, B, and C Deciders
Disengaged
Dead Weight

If there are more than 3 candidates in a race, and we have models for each candidate, the candidates that are not the top two or, rarely, top three, are grouped into an “other” category by taking each voter’s highest score among the candidates. For example, let’s say we have three voters: Sally, Joe, and Bob, and 5 candidates (A through E) in an election. Candidate A and Candidate B are currently in the lead, so they will each be included in the flower as standalone candidates. The table below shows each voter’s score for the remaining three candidates.

	C	D	E
Sally	0.4	0.8	0.3
Joe	0.6	0.1	0.2
Bob	0.7	0.2	0.8

Sally’s top score among the remaining candidates is 0.8 (Candidate E). Joe’s top score among the remaining candidates is 0.6 and Bob’s is 0.7. Therefore, the “Other” candidate will have scores of 0.8, 0.6, and 0.7 for these three voters. However, these scores are typically very low.


Fleur De Guerre
...Visualizing the multiway primary
Cand A
Cand B
Cand C
Cand A In The Bank
104,386
Cand A GOTV
28,426
Cand A - Cand B Deciders
7,287
Deciding Among All
509,625
Cand A - Cand C Deciders
19,650
Cand B GOTV
12,814
Cand C GOTV
6,243
Cand B In The Bank
18,299
Cand C In The Bank
56,201
Cand B - Cand C Deciders
12,361