About 1.4 million refugees and irregular migrants arrived in Europe in 2015 and 2016. We model how refugees and irregular migrants are self-selected. Using unique datasets from the International Organization for Migration and Gallup World Polls, we provide the first large-scale evidence on reasons to emigrate, and the self-selection and sorting of refugees and irregular migrants for multiple origin and destination countries. Refugees and female irregular migrants are positively self-selected with respect to education, while male irregular migrants are not. We also find that both male and female migrants from major conflict countries are positively self-selected in terms of their predicted income. For countries with minor or no conflict, migrant and non-migrant men do not differ in terms of their income distribution. We also analyze how border controls affect destination country choice.