The study uses a spatial gravity model with spatial dependence in the bilateral flows between origins and destinations. This is important for policy because it underscores the futility of parochial policy targeting in the presence of spatial spillover. Traditionally, it has been assumed that only developments in the origins and destinations affect the magnitude of migration between them. In the present study there are spillover effects between neighboring EU destinations and neighboring ENP origins. Spatial weights in neighboring destinations are based on intra-EU migration, and spatial weights in neighboring origins are based on intra-ENP migration. We have found only weak evidence of the attractiveness of welfare generosity in EU destination countries as influencing migration from the ENP’s. The same is true for the effectiveness of enforcement measures against illegal immigrants from the ENP’s. It would seem that both sticks and carrots in the destination (EU) countries do not, on the whole affect immigration from ENP countries. Nor do economic conditions in the ENP countries affect immigration to EU countries. Although the evidence is not strong enough to support substantive policy prescriptions, it implies that reduced economic growth in EU and cuts in welfare are unlikely to reduce the flow of immigration from ENP countries. However, the influence of neighboring countries seems to be of more importance. These powerful spatial spillovers mean that parochial immigration policies are destined to fail, and that immigration policy must be designed globally.