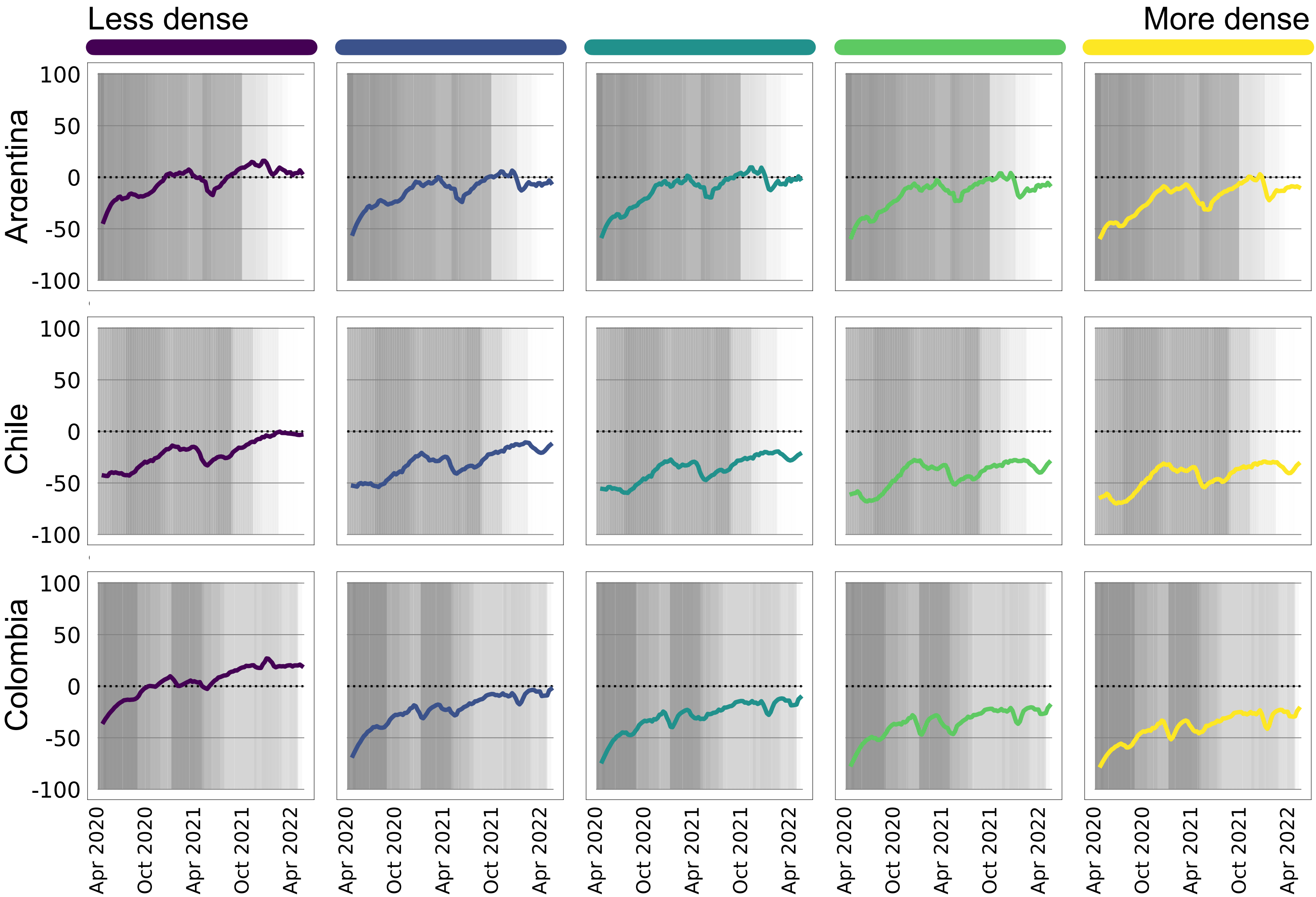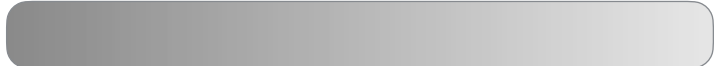Evolution of outflows by population density category of origin