This paper qualitatively and quantitatively analyzes the welfare effect of accepting immigrants in the presence of a pay-as-you-go social security system. First, it demonstrates that if there are inter-generational government transfers from the young to the old in the sense that the marginal product of labor of a young individual is greater than what he or she receives, including publicly provided private good, accepting immigrants Pareto-improves welfare. Second, the paper shows that if there are inter-generational government transfers in the sense defined above, the government can achieve a path that leads to the golden rule level of capital stock per capita within a finite time in a Pareto-improving way by accepting immigrants while simultaneously using the surplus of the government budget for the government saving and by adjusting the wage tax and the capital income tax. Third, this paper presents how those taxes should be adjusted when immigrants are accepted. Fourth, using the computational overlapping generation model developed by Auerbach and Kotlikoff (1987), I simulate the model economy and calculate years needed to reach the golden rule level of capital stock per capita and the present discounted value (PDV) of the Pareto-improving welfare gain obtained by accepting immigrants. In this simulation, I consider three scinarios of accepting immigrants. In the most moderate case, the immigrant/native ratio (INR) starts from 15.5 percent, reaches 25.5 percent at 80th year and it remain at 25.5 percent in all later years. My simulation shows that (1) in all cases considered, all cohorts are Pareto-improved,(2) as the share of the surplus for the government saving becomes higher, the economy reaches the golden rule earlier, (3) if the share of the surplus for the government saving is greater than or equal to 70 percent, the economy reaches the golden rule level between 130 years in a Pareto-improving way, (4) the PDV of the Pareto-improving welfare gain amounts to 19 to 26 percent of the initial GDP. In addition, I conducted robustness checks of my results by changing the values of several parameters such as the replacement rate, the initial government debt level, immigrant earning level and preference parameters. In those robustness checks, I find that the magnitude of the welfare gain does not change for the reasonable ranges of parameter values. All results (both theoretical and computational) indicate that the economic effect of accepting immigrants is not trivial.