Abstract: Personalized pricing, a limiting case of price discrimination as the number of targeted consumer segments increases, becomes increasingly common due to the availability of vast amount of individual-level data. This paper studies personalized pricing in a Hotelling setting when each firm has a given target segment and consumers can be sophisticated. Sophisticated consumers can overcome the hurdles for price discrimination and have access to the price offered to non-targeted consumers, which naive consumers cannot. When all consumers are naive, personalized pricing leads to intense competition and total industry profit lower than that under the Hotelling equilibrium. But market is always fully covered. Sophisticated consumers raise the firm's cost of serving non-targeted consumers, hence discourage firms from poaching the rival's targeted customers. This softens competition. When firms have sufficiently large and non-overlapping target segments, consumer sophistication allows firms to extract full surplus from their targeted customers through perfect price discrimination. Consumers are strictly worse-off under competitive personalized pricing, a result in contrast to the common view in the literature. With sophisticated consumers, firms also choose not to serve the entire market when the commonly non-targeted market segment is small. Thus consumer sophistication can lead to lower consumer surplus and lower social welfare. We also discuss the implications for the regulation of the use of customer data by firms.