is product substitutability, the lower is the incentive of firms to separate from each other; the higher is the transportation costs, the wider is the distance separating the two firms at the dispersed equilibrium. Figure 1 synthesizes these results. It shows the optimal distance from the endpoints as a function of γ, for given values of t, the inner curves being associated to higher levels of the latter. The SPNE values of a $(= b)$, evaluated for each γ and t, are those comprised in the shaded area. For example, all points in the vertical segment AB represent firm i's optimal locations when $\gamma = \gamma_0$, as t varies from $t_{\min}(\gamma_0)$ to $t^{cover}(\gamma_0)$, while the interval $[\gamma_0, \gamma']$ is the range of values of γ which supports a dispersed equilibrium with full market coverage by both firms, when $t = 6/5$.

3 Final remarks

In this paper we have extended the analysis by Shimizu (2002) who argues that the degree of product substitutability doesn't alter the equilibrium solution in locations when firms compete on a linear city and the unit transportation cost is upper bounded at $t = 1/2$. This restriction ensures full market coverage by both firms from all pairs of locations; it is therefore a sufficient, but not a necessary condition for duopolistic interaction over the entire market *at the SPNE locations*. By deriving the less restrictive necessary conditions, we show that when the products are substitutes, the dispersed solution, coexisting with the agglomerated one, is indeed affected by the degree of substitutability. As goods become less substitutable, the distance between the firms at the dispersed equilibrium narrows, while the range of values of t consistent at equilibrium with full market coverage by both firms shrinks and shifts upwards. Imperfect substitutability softens competition: from the one side both firms may profitably reach distant locations even in the presence of high transportation costs; from the other side firms may interact from closer locations at the dispersed equilibrium. Shimizu's result turns out to be a special case; it applies when the agglomerated equilibrium is unique, i.e., for a subset of the admissible values of t when the goods are substitutes, for all admissible t when the goods are complements.