Using Monte Carlo Model for Simulation of Rented Housing in Mashhad, Iran

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Abstract : The study employs Monte Carlo method for simulation of rented housing in Mashhad second largest city in Iran. A total number of 334 rental residential units in Mashhad, including both apartments and houses (villa), were randomly selected from advertisements placed in Khorasan Newspapers during the months of July and August of 2015. In order to simulate the monthly rent price, the rent index was calculated through combining the mortgage and the rent price. In the next step, the relation between the variables of the floor area and that of the number of bedrooms for each unit, in both apartments and houses(villa), was calculated through multivariate regression using SPSS and was coded in XML. The initial model was called using simulation button in SPSS and was simulated using triangular and binominal algorithms. The findings revealed that the average simulated rental index was 548.5$ per month. Calculating the sensitivity of rental index to a number of bedrooms we found that firstly, 97% of units have three bedrooms, and secondly as the number of bedrooms increases from one to three, for the rent price of less than 200$, the percentage of units having one bedroom decreases from 10% to 0. Contrariwise, for units with the rent price of more than 571.4$, the percentage of bedrooms increases from 37% to 48%. In the light of these findings, it becomes clear that planning to build rental residential units, overseeing the rent prices, and granting subsidies to rental residential units, for apartments with two bedrooms, present a felicitous policy for regulating residential units in Mashhad.