

Special Research Study Title	A Study of Major Component Ratios in Housing Construction
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#### Abstract

This research analyzed major component ratios for estimating housing construction costs built with the precast system. This study aimed to develop a ratio of main elements to be used as guidelines for the estimation process. An analysis was conducted on 111 bills of quantity (BOQ) from 51 single house projects and 60 townhouse projects.

The study found that the majority of single houses involved 12 main component ratios: concrete/serviceable areas, reinforcing bars/serviceable areas, reinforcing bars/concrete, formwork/concrete, formwork/reinforcing bars, steel roofing/roof areas, precast/serviceable areas, precast concrete/serviceable areas, precast reinforcing bars/serviceable areas, precast concrete/precast areas, precast reinforcing bars/precast areas, and precast reinforcing bars/precast concrete. In the case of townhouses, there were 7 main component ratios: reinforcing bars/concrete, formwork/concrete, formwork/reinforcing bars, steel roofing/roof areas, precast concrete/precast areas, precast reinforcing bars/precast areas, and precast reinforcing bars/precast concrete. The average and standard deviation of these ratios can be used as primary criteria for determining the appropriateness of the bill of quantity.

Keywords : Bill of Quantity / Component Ratio / Housing Construction / Precast System