

# EFFICIENT COUPLING FOR FINITE STATE MARKOV CHAINS: CHAINS WITHOUT EFFICIENT COUPLING

IDDO BEN-ARI AND RACHEL LONCHAR

**Example 0.1.** Using the “switch” idea from Corollary 3.3, we can develop a Markov chain with only three states that will not have an efficient (Markovian component exchangeable) coupling. Figure 2, shows ones such chain.

**Example 0.2.** Using the “switch” idea from Corollary 3.3, we can develop a Markov chain with only three states that will not have an efficient (Markovian component exchangeable) coupling. Figure 2, shows ones such chain.

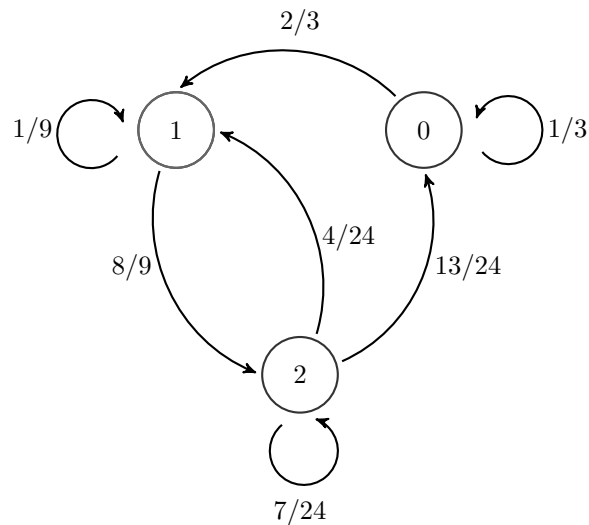


FIGURE 1. A three-state chain without efficient coupling.

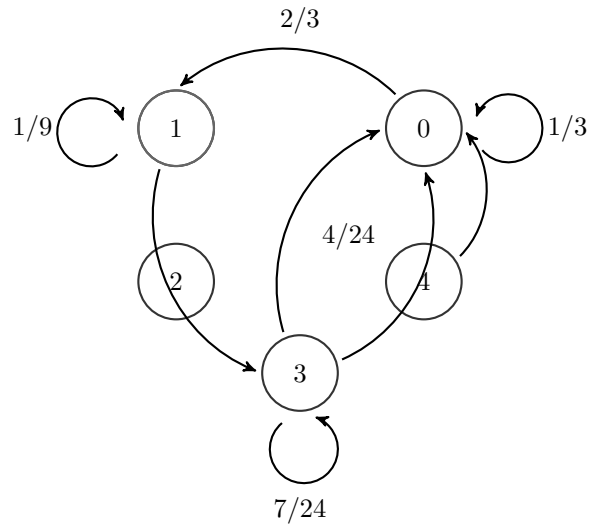


FIGURE 2. A three-state chain without efficient coupling.

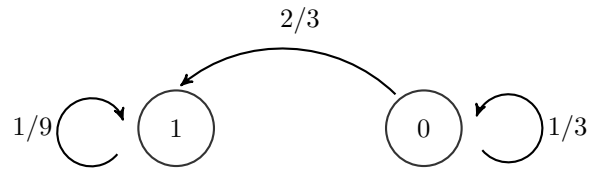


FIGURE 3. A three-state chain without efficient coupling.