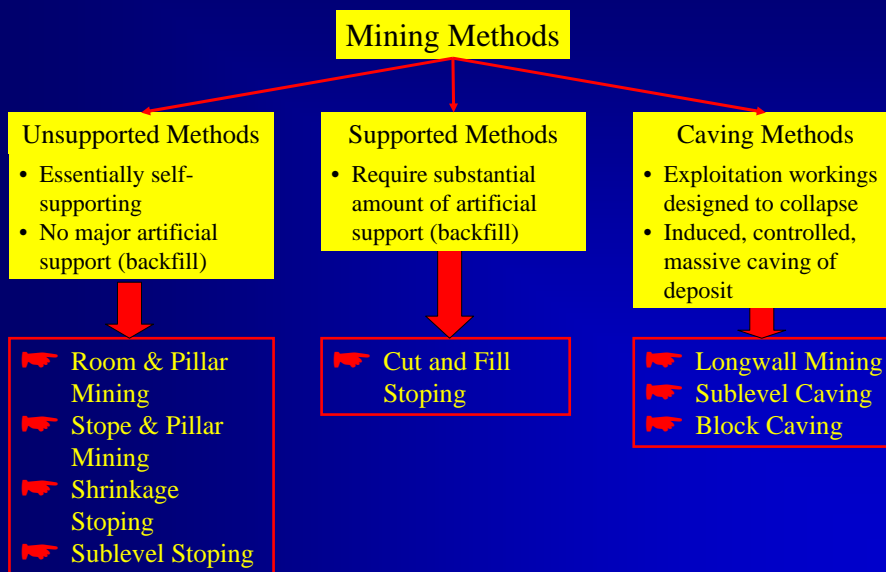


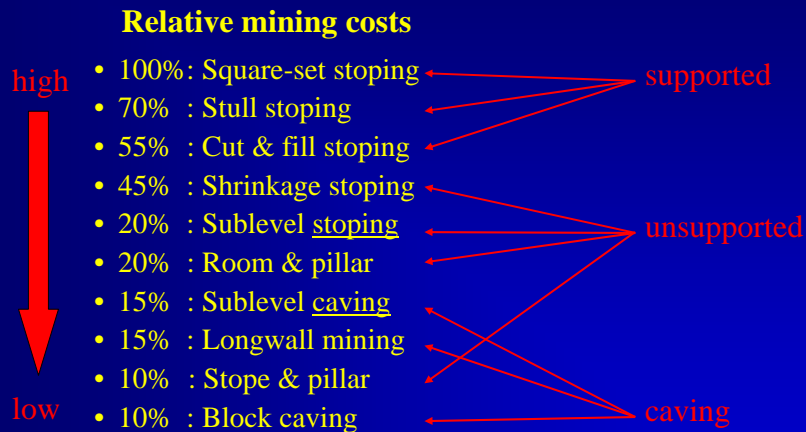
## Underground Mining Methods



## Classification of Mining Methods



## Cost of Mining Methods



Relative mining cost includes **capital** expenses, **indirect operating** costs (incl. overheads), **direct** operating costs (**development** and **exploitation**, including **maintenance**); expressed per ton (or m<sup>3</sup>) of mineral production

## Factors in Mining Method Selection

- ▶ **Spatial characteristics of deposit**  
 ⇒ size, shape, attitude, depth
- ▶ **Geologic, hydrologic conditions**  
 ⇒ mineralogy, chemical composition, structure, planes of weakness, uniformity, alteration, weathering, groundwater
- ▶ **Geotechnical properties**  
 ⇒ elastic properties, plastic or viscoelastic behavior, stress, consolidation, compaction, competence, other physical properties
- ▶ **Economic considerations**  
 ⇒ reserves, production rate, mine life, cost comparison
- ▶ **Technological factors**  
 ⇒ mine recovery, dilution, flexibility, selectivity, concentration or dispersion of workings, capital, labor, mechanization intensity
- ▶ **Environmental concerns**  
 ⇒ ground control, subsidence, atmospheric control, work force