where the last equation derives from the definition of $gd_{i,k}^{(p)}$ ($gd_{i,k}^{(p+1)} = gd_{i,k}^{(p)}$ iff ⑥
$y_{i\,p+1} = \dots = y_{iN} = 0$).
The last quantity is independent of x, leading to:

<u>Property 3</u>. ILFM with Π_g is neutral wrt to the local preferential attachment effect.

X.2.2. IMMSB

For IMMSB in Π_c, ~~we~~ ~~do~~ the situation is similar to the one of ILFM in Π_g as we do not have ~~access~~ a direct access to classes, encoded in the z variables.

One can nevertheless define, ~~through~~ ~~[illegible]~~ a local random variables $y_{ij,k}$ that are 1 if a link is generated between nodes i and j using class k and 0 otherwise. One has:

$$P(y_{ij,k} = 1 \mid \Pi_c) = P(y_{ij} = 1 \mid z_{i\to j} = k, z_{i\leftarrow j} = k, \Phi)\, P(z_{i\to j} = k \mid F)\, P(z_{i\leftarrow j} = k \mid F)$$

$$= f_{ik}\, \Phi_{kk}\, f_{jk}$$

The local degree $d_{i,k}^{(p)}$ can then be defined as the expectation over the nodes $1, \dots, p$ of $y_{ij,k}$:

$$d_{ik}^{(p)} = \sum_{j=1}^{p} P(y_{ij,k} = 1 \mid \Pi_c) = \sum_{j=1}^{p} f_{ik}\, \Phi_{kk}\, f_{jk}$$

→ THEN DEFINITION OF LOCAL PREF. ATT., PROPERTY AND PROOF AS IN ~~[illegible]~~ DSAA

→ ~~[illegible]~~ DEVELOPMENT FOR Π_g TO BE DONE (SOON)