Given an irreducible lattice Γ in the product of higher rank simple Lie groups, we prove: (i) every Γ-invariant von Neumann subalgebra of $L(\Gamma)$ is generated by a normal subgroup; and (ii) given a non-amenable unitary representation π of Γ, every Γ-equivariant conditional expectation on $C_\pi^*(\Gamma)$ is the canonical conditional expectation onto the C*-subalgebra generated by a normal subgroup. This is joint work with Nikolaos Panagopoulos.