Sectoral transitions - modeling the development from agrarian to service economies

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We consider the sectoral composition of a country's GDP, i.e the partitioning into agrarian, industrial, and service sectors. Exploring a simple system of differential equations we characterise the transfer of GDP shares between the sectors in the course of economic development. The model fits for the majority of countries providing 4 country-specific parameters. Relating the agrarian with the industrial sector, a data collapse over all countries and all years supports the applicability of our approach. Depending on the parameter ranges, country development exhibits different transfer properties. Most countries follow 3 of 8 characteristic paths. The types are not random but show distinct geographic and development patterns.