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# WHAT IS THE NUTRITION TRANSITION?

*This piece is a brief summary of the TABLE Explainer **What is the nutrition transition?** and aims to illuminate key debates surrounding the nutrition transition model.*

## What is the nutrition transition?

The 'nutrition transition' is a model developed in 1993 by American academic Barry Popkin. It describes five sequential stages of diet, physical activity, and causes of disease that accompany changes in economic development, lifestyle, urbanisation, and demography, occurring in different places at different times:

- Stage 1: Hunter-gatherer lifestyles
- Stage 2: Early labour-intensive agriculture with periods of famine
- Stage 3: Receding famine as agriculture becomes more industrialised and incomes rise
- Stage 4: "Western"-style diets high in calories, sugar, animal fat, and processed foods, as well as sedentary lifestyles
- Stage 5: Healthier diets and more active lifestyles

The term nutrition transition is commonly used by researchers to refer to the shift from Stage 3 to Stage 4, i.e. the switch from 'traditional' diets towards 'Western' diets high in fats, sugars, animal source foods, and highly processed foods, and low in fibre. **This shift** is associated with a reduction in diseases associated with insufficient access to nutritious foods, and also with increases in **overnutrition**, sedentary lifestyles, and diet-related **non-communicable diseases**.

Many countries in the Global North experienced the **nutrition transition during the Industrial Revolution** in the late 19th and early 20th centuries. In contrast, **many countries in the Global South** only experienced the nutrition transition in the 1980s and 1990s. Several factors are believed to drive the nutrition transition, including **urbanisation**, increases in average **per capita income**, the growth of **supermarkets**, **market liberalisation**, **foreign direct investment**, and **food marketing**.

## Included in this summary

Singular vs. multiple transition(s)

Convergent vs. divergent dietary outcomes

Development

Limitations of the model





## Debates surrounding the nutrition transition

As the nutrition transition model has gained traction within and beyond academia, various criticisms and qualifications of the nutrition transition model have emerged.

### *Singular vs. multiple transition(s)*

Popkin's conception of the nutrition transition assumes a singular transition in diet and lifestyle that occurs between each stage in the model. In contrast, Lang and Rayner understand the nutrition transition to be **comprised of three separate but overlapping transitions** in diet, physical environment, and culture. This alternative theory of multiple transitions is underpinned by evidence demonstrating that disease risk factors associated with the nutrition transition don't necessarily change simultaneously or at the same rate, suggesting other factors at play beyond diet and physical activity. Lang and Rayner underscore that obesity policy must tackle diet, physical environment, and culture, in an interconnected way, to be effective.

### *Convergent vs. divergent dietary outcomes*

The nutrition transition model describes a global convergence towards Western dietary patterns. However, Hawkes has found evidence of **both convergent and divergent dietary outcomes**. While diets are generally shifting towards much higher consumption of processed foods, the types, brands, and marketing techniques of these processed foods are customised to local cultures and preferences. As such, the shift towards processed foods is shaped by local dietary customs, rather than a universal shift towards 'Western' dietary patterns. Hawkes also notes that supermarket expansion, while making global diets more homogenous, could increase the diversity of food (including healthy foods) available to individuals.

### *The nutrition transition and development*

The five-stage nutrition transition model assumes that countries in the Global South will follow roughly the same social, technological, and economic development pathway as countries in the Global North. However, critics argue that many of the development mechanisms employed by high-income countries (e.g. protection of domestic industries) are **unavailable to low- and middle-income countries today**, and hence some countries may not make a sequential transition from earlier to later stages of the model.

### *Limitations of the nutrition transition model*

Other criticisms of the nutrition transition model focus on the model's oversimplification of historical phenomena and difficulty in measuring transitions between stages in the model. For example, the model specifies that famine risk is concentrated in Stage 2 (early, labour-intensive agriculture). However, this assumption may **idealise hunter-gatherer societies** which experience seasonal variation in food availability, particularly in cold climates. Others argue that **current dietary measurement tools cannot adequately capture the nutrition transition** and thus studies on the nutrition transition rely on proxies of dietary change (e.g. body weight and food availability), rather than concrete data on changing diets. According to this perspective, it's impossible to determine whether the evidence actually supports the details of the nutrition transition model given how little is known about actual food consumption in many populations, particularly in low- and middle-income countries.

Finally, Stage 5 remains largely hypothetical, with some exceptions. In a few high-income countries such as **Japan and Singapore**, consumption of salt, sugar, and fat from processed food has levelled off, driven in part by slowly declining consumption of processed food. In wealthy countries, **people with higher socioeconomic status tend to have a lower body mass index** and eat more nutritiously than those with lower socioeconomic status, indicating that at least some segments of the population in the Global North have transitioned or are transitioning to Stage 5.



## Conclusion

The nutrition transition model, although not without its critics, has had remarkable influence and staying power over the last thirty years on debates regarding global nutrition. While the exact mechanisms and outcomes of the nutrition transition model can be legitimately debated, the model provides insights into the drivers of changing health trends.

Some of Popkin's predictions have been accurate. For example, disease burdens from certain dietary and lifestyle risks (e.g. low physical activity and diets low in fruit) are lowest in low-income countries and increase as countries become wealthier. Meanwhile, diseases caused by **hunger and insufficient access to nutritious food** decline as per capita incomes rise.

However, since the model does not fully match observed trends, it may oversimplify complex relationships between development and nutrition. For example, diseases associated with red and processed meat consumption and high body mass index continue to climb in the highest income countries to date, undermining Popkin's idea that wealthier countries eventually adopt healthier diets and lifestyles.

More research is required on the environmental implications of the nutrition transition, including those related to consumption of **animal source foods** (which remains high in the Global North and is growing in the Global South), food packaging, and food processing.

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