THE RECIPE FOR DEMOCRACY? THE SPREAD OF EUROPEAN DIET AND POLITICAL CHANGE

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Cultural and Economic Changes under Cross-National Perspective

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- “The **nourishment** and **education** of their children is a charge so incumbent on parents for their children’s good, that nothing can absolve them from taking care of it.”

- John Locke, “*Two Treatises on Government*”

Introduction

- Improvement in diet and political change?
  - *How can any substantial connection be possible?*

  The first guess:

  Democracies enjoy better diets, so
  - *Higher income leads to better diet*
  - *With transition to democracy people eat better*

Introduction

- I argue the opposite:
  - *Improvement in diet precedes democratization*
  - *Diet has independent (from income) effect on political change*

  I show that a European diet is an outcome of long-term historical transformation.

  Later it spread across the globe with globalization

Introduction

- Western life style might be strongly associated with a European diet
- The effect of income growth?
- First, people start consuming more calories; second, they replace ‘cheap’ calories (from carbohydrates) on ‘expensive’ ones (from proteins), and, finally, on ‘very expensive’ (from animal proteins).
- Historical perspective matters
- Globalization and westernization of diets

Theory: an outline

- 1. The long-term perspective:
  - *Diet and economic growth*
  - *Diet and modernization*
  - *Crops and social effects*
  - *Genes and food traditions*
- 2. Diet and globalization
- 3. The short-term perspective:
  - *Democracy and redistribution*
  - *Food policies under autocracies*
- 4. My model

Diet and economic growth

- R.Fogel: improvement in diet *preceded* economic growth in Europe
- Throughout human history chronic malnutrition was a norm, even in the most developed Western societies
- Chronic malnutrition in Europe excluded up to 20% of labor force; better diet – more active labor force
- Better nutrition also brings important physiological change: an average height, weight and BMI increased dramatically.
  - Labor productivity; exposure to education and innovations (Mokyr 1992)

Diet and Modernization

- In general, it is one of mechanisms behind existential security (Inglehart, Welzel). It is the better foods – in terms of amount of calories and amount of proteins – what makes people feel safer.
- it is change in diet - abundance of food and an increase in consumption of valuable and prestigious items - contributed a lot to the change in perception of existential threats.
- When permanent and easy access not only to basic staple foods but also to expensive and valuable animal proteins is taken for granted, one may argue that the history of famine and chronic malnutrition for a given society is over.

Crops and social effects

- Certain social effects of particular crops:
  - Wheat vs. rice (Talhelm et al., 2014)
  - Wheat vs. sugar cane (Fairbrother, 2013)
  - Potato (Nunn and Qian, 2011)
- Historically, various crops were not evenly distributed across the globe
- Only with the progress of modernization, the most of societies gained access to new crops, plants and livestock breeds that enabled them to diversify their agriculture and food supplies

Genes and Food traditions

- Evidence of genetic adaptation to (mal)digestion of milk, alcohol, sugar, mushrooms, starch, beans etc. (Borinskaya et al., 2009). Specific food intolerance
- Milk (lactose intolerance): Europeans had a nutritional advantage

Globalization and Diet

- Globalization: trade liberalization and capital flows. FDI
- Globalization: the exchange of goods and services as well as greater exposure to ideas and cultural patterns
  - Economic growth
  - Democratization (via economic growth, diffusion of democratic ideas, international pressure and chain reaction)
- Change in diet patterns: global markets of food emerge, with important consequences for consumers, farmers, retailers and processors. The “nutrition transition (Popkin 2006)
- New foodstuffs, brands, and recipes; processed foods, fast-food chains and supermarkets. In other words, it is a transition from traditional diets to a European diet
  - “Westernization of diet”

Democracy and redistribution: regime type and nutrition patterns

- “Is democracy good for the poor? ” (Ross, 2006)
- The poor benefit from transition to democracy: democracy is associated with greater income redistribution, higher rates of economic growth and thus better access to food
  - infant and child mortality ; life expectancy and manufacture wages. Only *one paper* on nutrition status (Blaydes and Kayser, 2011)
  - Inconclusive findings?

Food policy in autocracies

- Autocracies try to catch-up democracies in terms of food supplies: adopt and implement various food policies to secure food supplies to low classes
  - reduce food prices paid by urban consumers striving to prevent urban unrest
- State sponsored programs of food subsidies: Dominican Republic, Mexico and Brazil, Venezuela, Argentina, and Egypt
- However, the quality of subsidized food was rather low – basic staple foods (bread, wheat flour or cooking oil); but not black angus beef

Model: A European Diet

- It is a protein rich, especially animal protein rich, sugar rich and alcohol rich diet (meat, dairy products, alcohol, and desserts - and with relatively low share of cereals diet).
  - Abundance of dairy products
  - Advantages of modernization: new crops and animals from other continents
  - New technologies: fossil fuels, railroads, refrigeration etc.
- Increase in calories intake, then – improvement of diet
- Globalization spreads European diet patterns and changes traditional food practices
- **Improvement in diet is a structural prerequisite for political change**

A European Diet

Hypothesis

- *H1:* Improvement in diet has positive effect on regime change after controlling for income growth and global trade.
- *H2:* Improvement in diet precedes democracy.

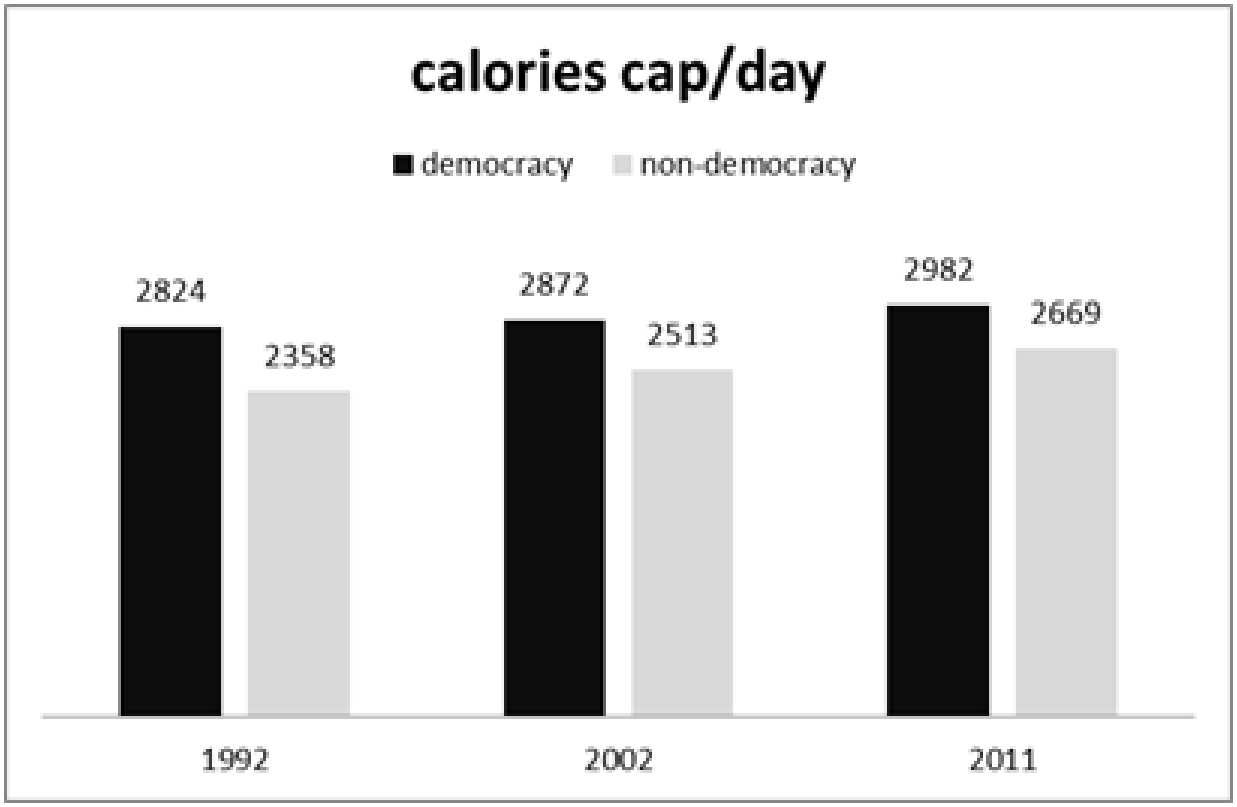
Data

- DV is the **Freedom House Score** (reverse coding)
- Control variable is **Income**, as (log) GDP per capita, PPP, for 1992, 2002 and 2011.
- **Trade,** as (log) the sum of exports and imports of goods and services measured as a share of GDP
- From the FAOSTAT's food balance sheets:
    - **Calories** – Food supply, kcal/capita/day
    - **Proteins** – proteins supply quantity, g/capita/day
    - **Animal proteins** – Average supply of protein of animal origin (3-years average), g/capita/day
    - **Animal products**, kcal/capita/day
    - **Vegetal products**, kcal/capita/day
- kcal/capita/day:
- **Cereals** (excluding beer), **Starchy roots**, **Sugar** and sweeteners, **Pulses**, **Vegetables**, **Fruits** (excluding wine), **Alcoholic beverages**, **Meat**, **Milk** (excluding butter), **Fish& seafood**.
- all these figures as shares of daily calories intake

Methods

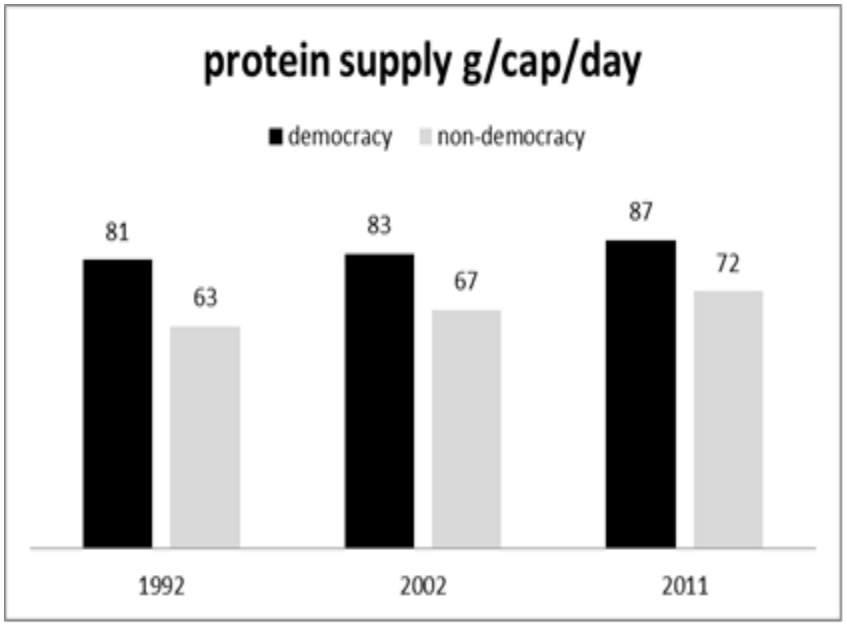
- 1) exploratory tests: T-tests and OLS
- 2) PCA – to define a ‘European diet’
- 3) SEM – to test the relationship between diet and political regime

Calories per capita, daily intake in 1992, 2002 and 2011

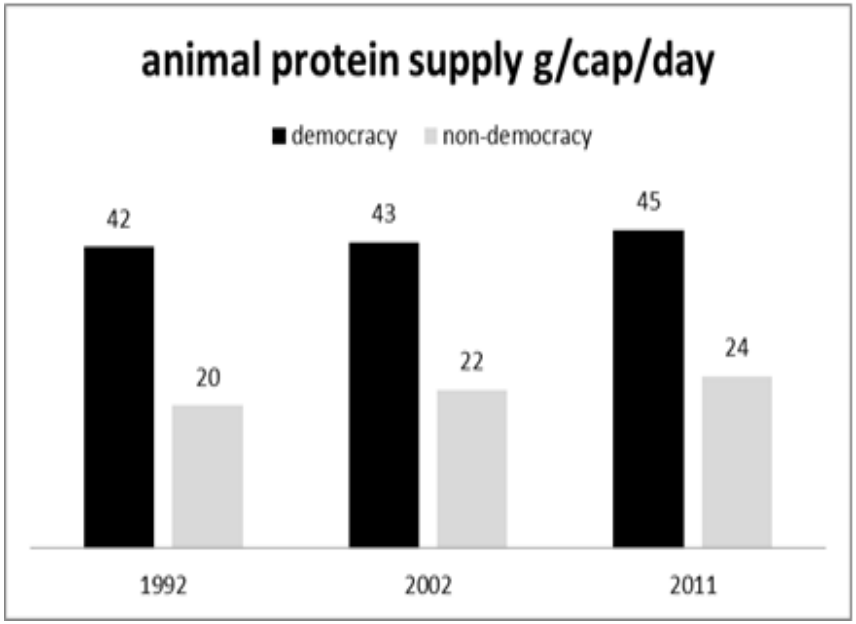


Independent sample T-tests: in all cases the difference between democracies and non-democracies is significant

Protein supply per capita, daily intake (gr) in 1992, 2002 and 2011



Animal protein supply per capita, daily intake in 1992, 2002 and 2011



Comparison of diet patterns in Netherlands and Saudi Arabia in 2011

	Income GDP per capita USD	*Freedom House*	*Calories, cap/day*	*Proteins, g/cap/day*	*Animal proteins, g/cap/day*	*Meat*	*Milk*	*Cereals*
Netherlands	46388	1.0	3147	106	73	11%	14%	22%
Saudi Arabia	49230	7.0	3122	87	34	8%	4.6%	45%

Political regime and diet in 1992, 2002 and 2011

	Standardized Beta-coefficients					
	1992		***2002***		***2011***	
	Model 1	*Model 2*	*Model 3*	*Model 4*	*Model 5*	*Model 6*
Log income	**0.243***	**0.231***	**0.321****	**0.306****	**0.333****	**0.355****
	(0.184)	**(0.187)**	**(0.176)**	**(0.180)**	**(0.169)**	**(0.181)**
Log calories (kcal/capita/days)	**0.321****	-	0.209	-	0.174	-
	(1.056)		(1.150)		(1.255)	
Log proteins (g/capita/days)	-	**0.332****	-	0.226	-	0.139
		(0.747)		(0.768)		(0.844)
Adjusted R2	*0.271*	*0.273*	*0.243*	*0.245*	*0.219*	*0.213*
N observations	*143*	*143*	*157*	*157*	*157*	*157*

Political regime and animal protein intake in 1992, 2002 and 2011

	Standardized Beta-coefficients		
	1992	***2002***	***2011***
	Model 7	*Model 8*	*Model 9*
Log income	-0.104	0.000	0.004
	(0.193)	(0.194)	(0.206)
Log animal proteins (g/capita/day)	**0.716****	**0.573****	**0.545****
	(0.302)	**(0.319)**	**(0.364)**
Adjusted R2	*0.391*	*0.320*	*0.291*
N observations	*157*	*157*	*157*

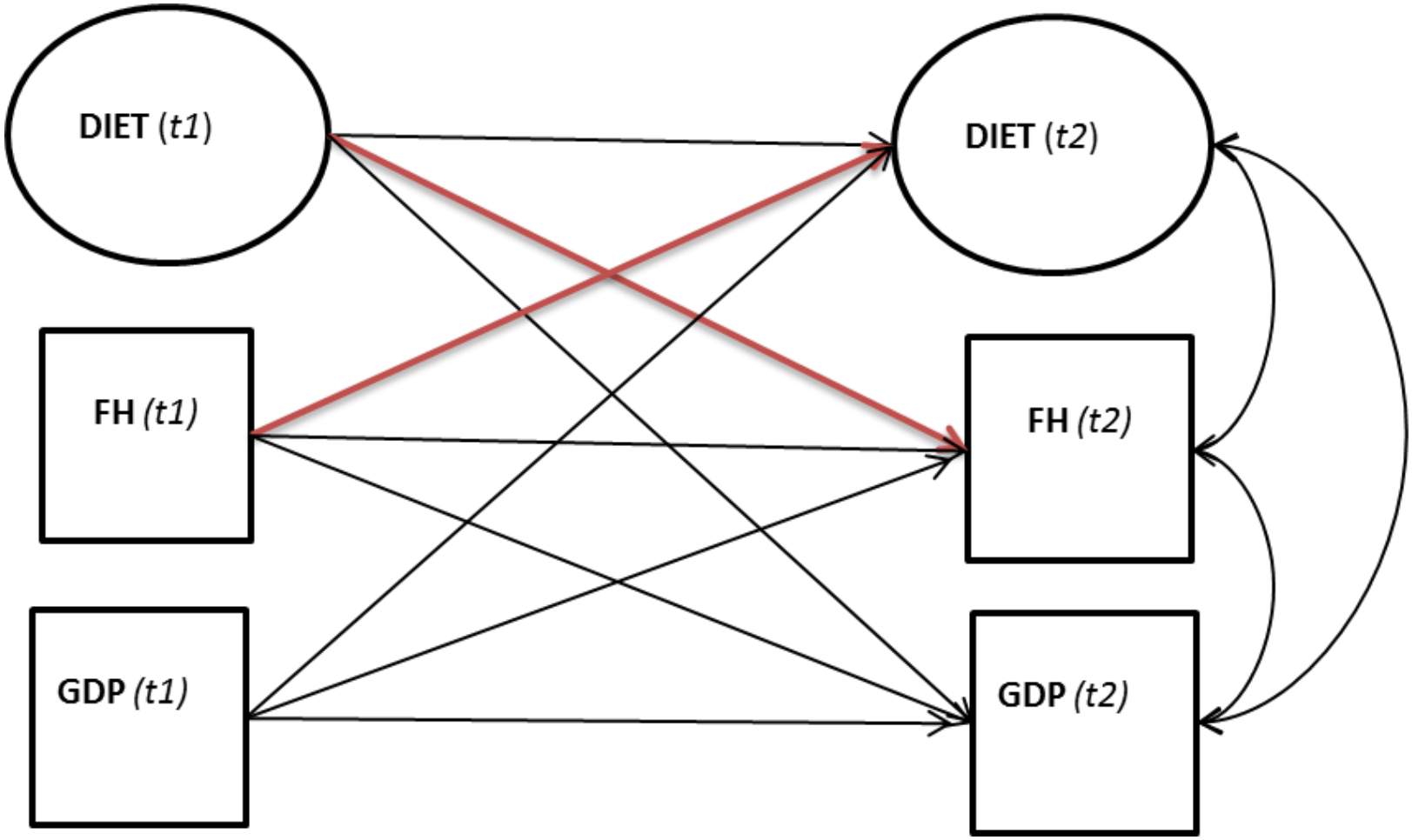
PCA of nutritional components in 1992, 2002 and 2011

Matrix of components												
	1992				**2002**				**2011**			
	Component				**Component**				**Component**			
	1	***2***	***3***	***4***	***1***	***2***	***3***	***4***	***1***	***2***	***3***	***4***
Sugar	**.595**	-.112	.264	**.604**	**.647**	-.117	-.079	-.**560**	**.609**	-.126	.159	-.**586**
Fruit	.055	**.743**	.344	-.048	.042	**.733**	.020	.085	.086	**.712**	.237	.167
Vegetables	.256	-.198	.234	-.**598**	.358	-.277	.117	**.682**	.398	-.293	.029	**.732**
Cereals	-**.720**	-.**624**	.078	-.019	-**.670**	-.**676**	-.048	.016	-**.704**	-.**630**	-.042	.024
Meat	**.801**	-.032	-.200	-.141	**.825**	.080	.023	.111	**.804**	.078	-.079	-.015
Fish	.150	.193	-.**671**	**.412**	.245	.070	**.849**	-.302	.257	.194	-.**802**	-.176
Milk	**.801**	-.201	.164	.007	**.730**	-.116	-.363	-.003	**.737**	-.152	.317	.097
Alcohol beverages	**.628**	.352	.139	-.175	**.632**	.342	-.224	.102	**.610**	.265	.149	.021
Starchy roots	-.346	**.718**	-.355	-.250	-.467	**.707**	.154	.211	-.474	**.713**	-.160	.189
Pulses	-.**461**	.408	**.565**	.321	-**.527**	.367	-.434	-.273	-.**576**	.235	**.500**	-.227
Variance extracted, %	*29.73*	*18.79*	*12.31*	*11.12*	*31.65*	*18.60*	*11.38*	*10.19*	*32.15*	*17.07*	*11.32*	*10.36*

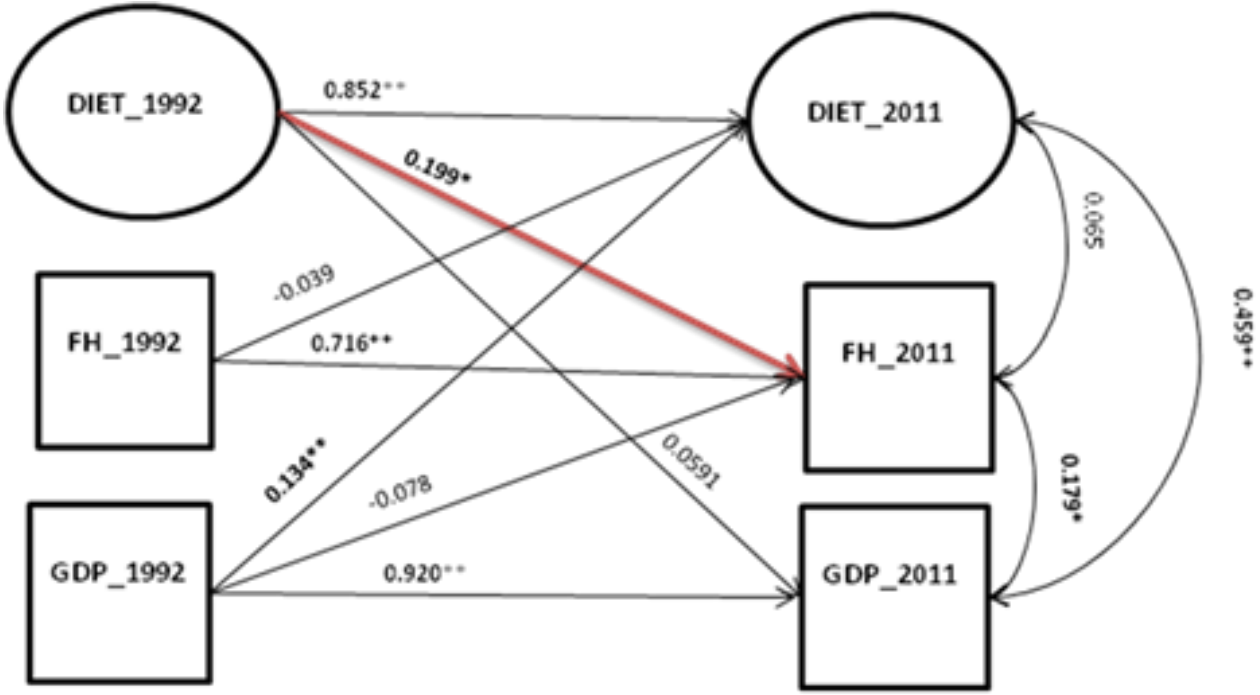
A European diet: top-10 countries with highest factor loadings (component 1) in 1992, 2002 and 2011.

1992		**2002**		**2011**	
Country	***Factor loadings***	***Country***	***Factor loadings***	***Country***	***Factor loadings***
Bahamas	1.890	*Iceland*	2.145	*Iceland*	2.088
Switzerland	1.857	*Netherlands*	1.746	*Bahamas*	1.654
Finland	1.855	*Ireland*	1.690	*Finland*	1.635
Netherlands	1.855	*Switzerland*	1.684	*Switzerland*	1.616
Australia	1.797	*Finland*	1.683	*Netherlands*	1.607
Iceland	1.796	*Bahamas*	1.670	*Antigua and Barbuda*	1.526
France	1.737	*Australia*	1.500	*Hong Kong*	1.454
Estonia	1.667	*Cyprus*	1.478	*Sweden*	1.395
Germany	1.638	*U.S.A.*	1.476	*Estonia*	1.374
Czechoslovakia	1.618	*Antigua and Barbuda*	1.469	*Denmark*	1.371

SEM

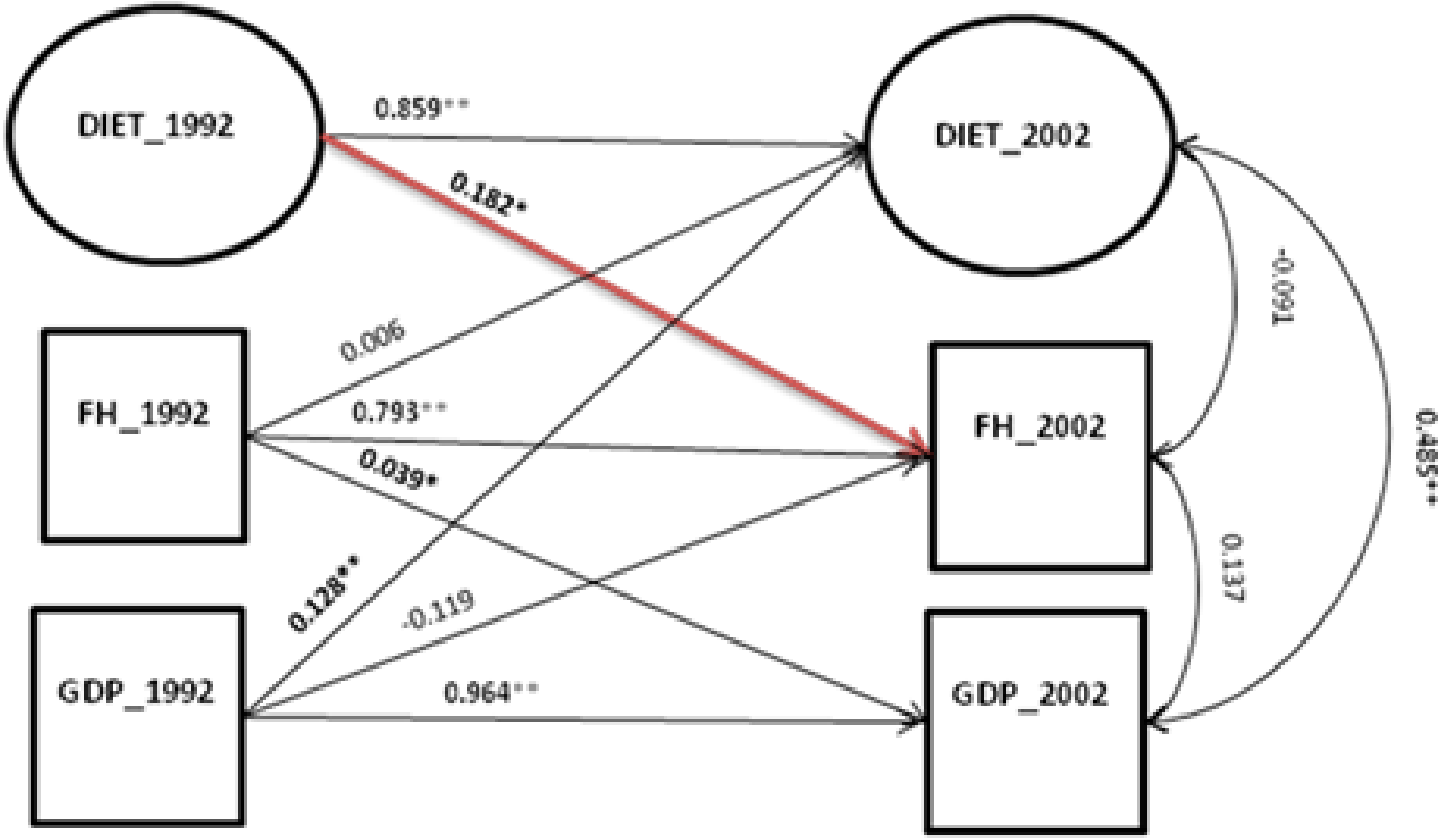


Model 1: Democracy, income and diet in 1992-2011



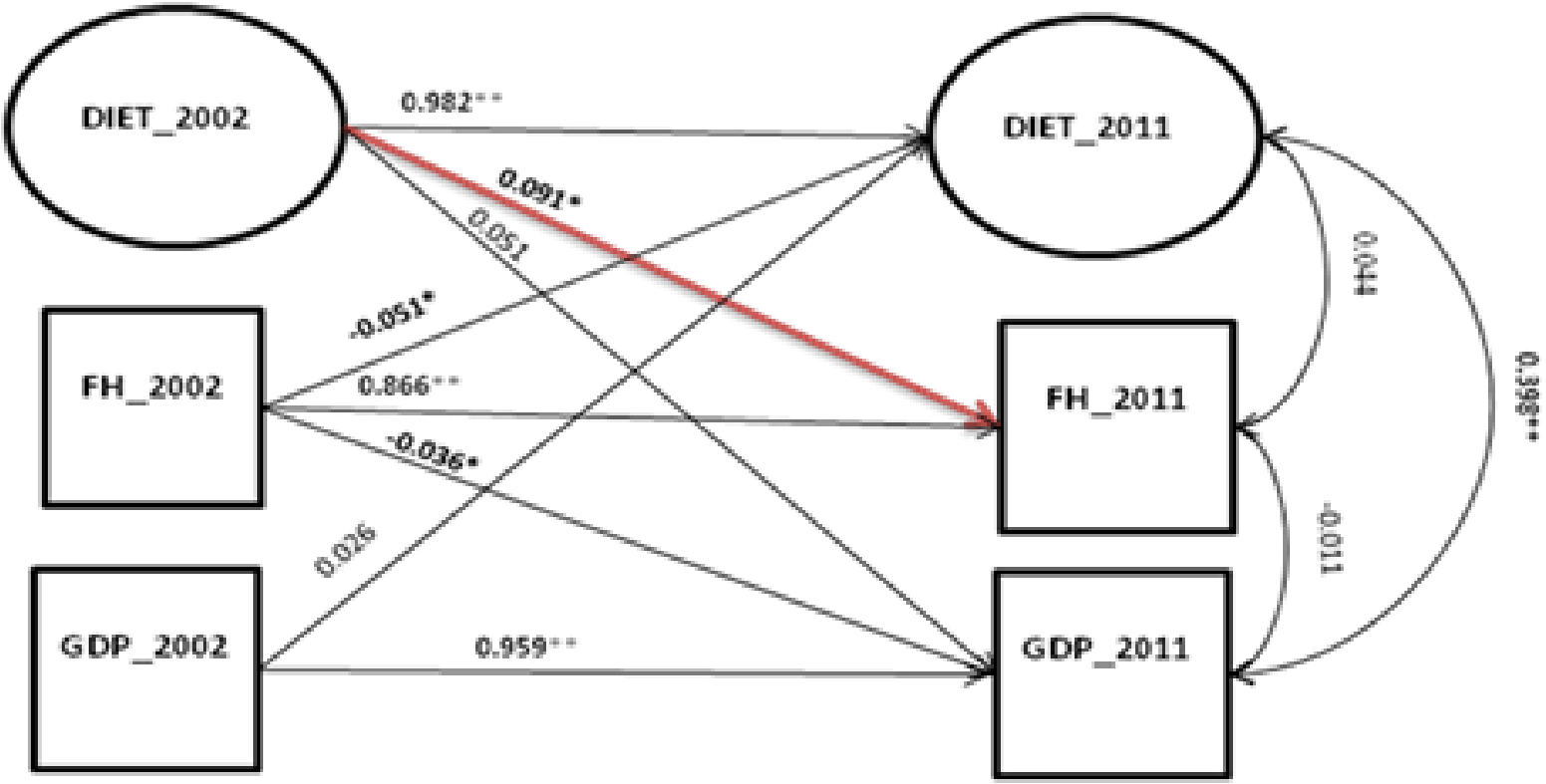
χ^2 = 0.415, df = 1, p = 0.519, CFI = 1.000, RMSEA = 0.000, SRMR = 0.004.
N = 142

Model 2: Democracy, income and diet in 1992-2002



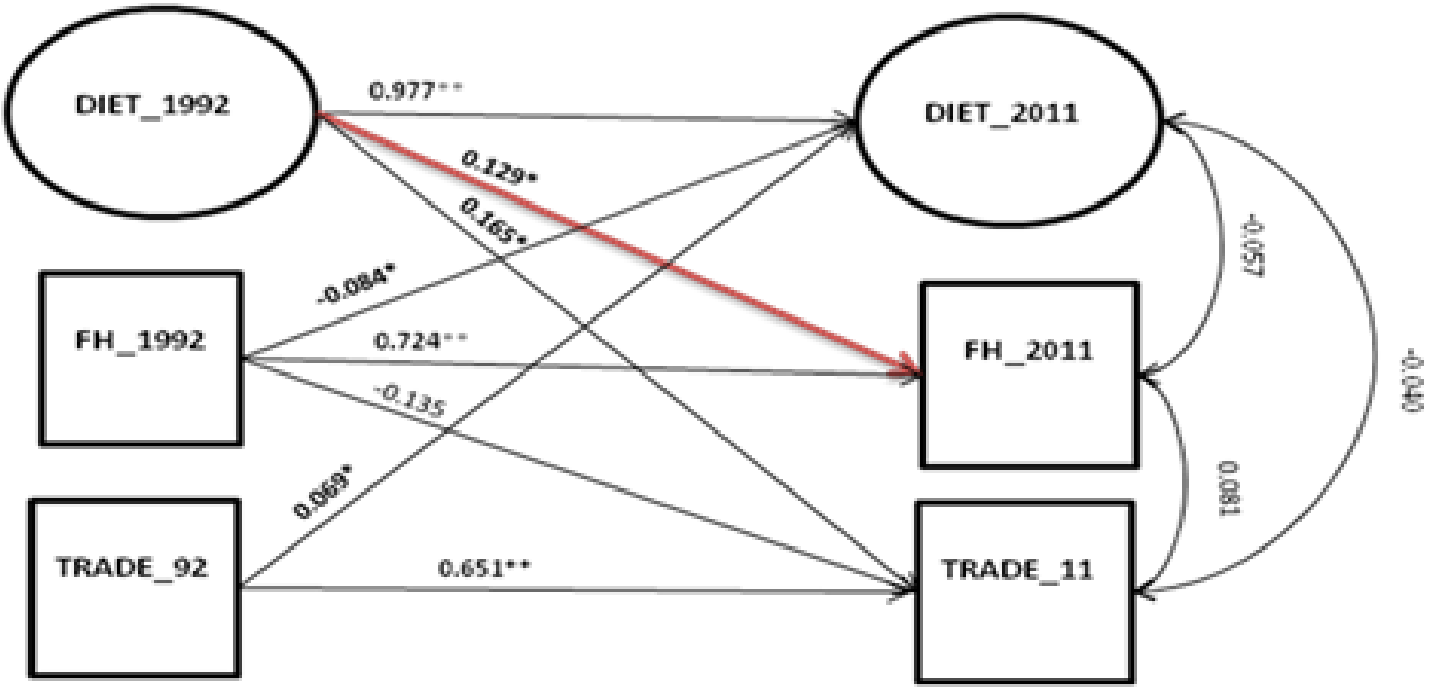
χ^2 = 0.013, df = 1, p = 0.910, CFI = 1.000, RMSEA = 0.000, SRMR = 0.000. N = 142

Model 3: Democracy, income and diet in 2002-2011



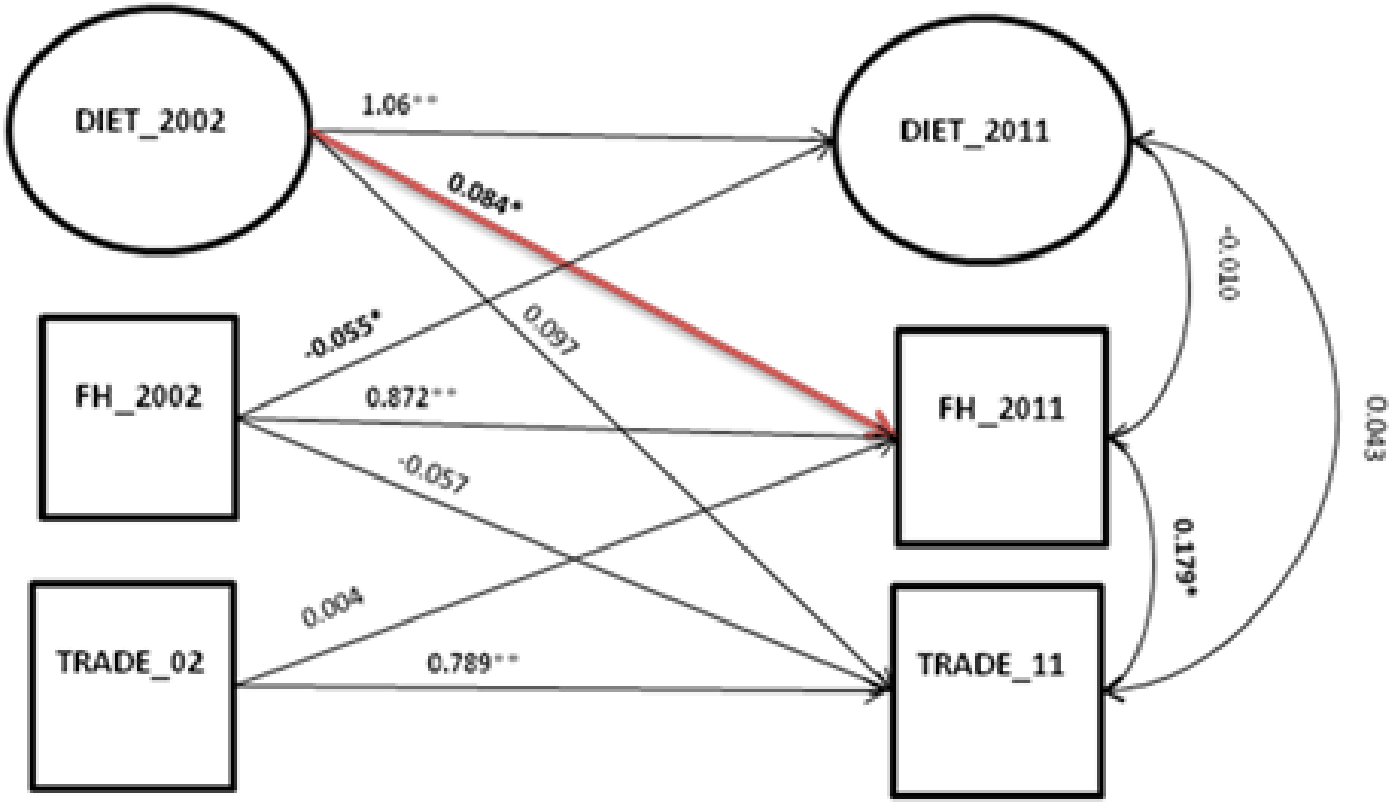
χ^2 = 0.291, df = 1, p = 0.590, CFI = 1.000, RMSEA = 0.000, SRMR = 0.003.
N = 157

Model 4. Democracy, trade and diet in 1992-2011.



χ^2 = 0.416, df = 1, p = 0.519, CFI = 1.000, RMSEA = 0.000, SRMR = 0.008.
N = 138

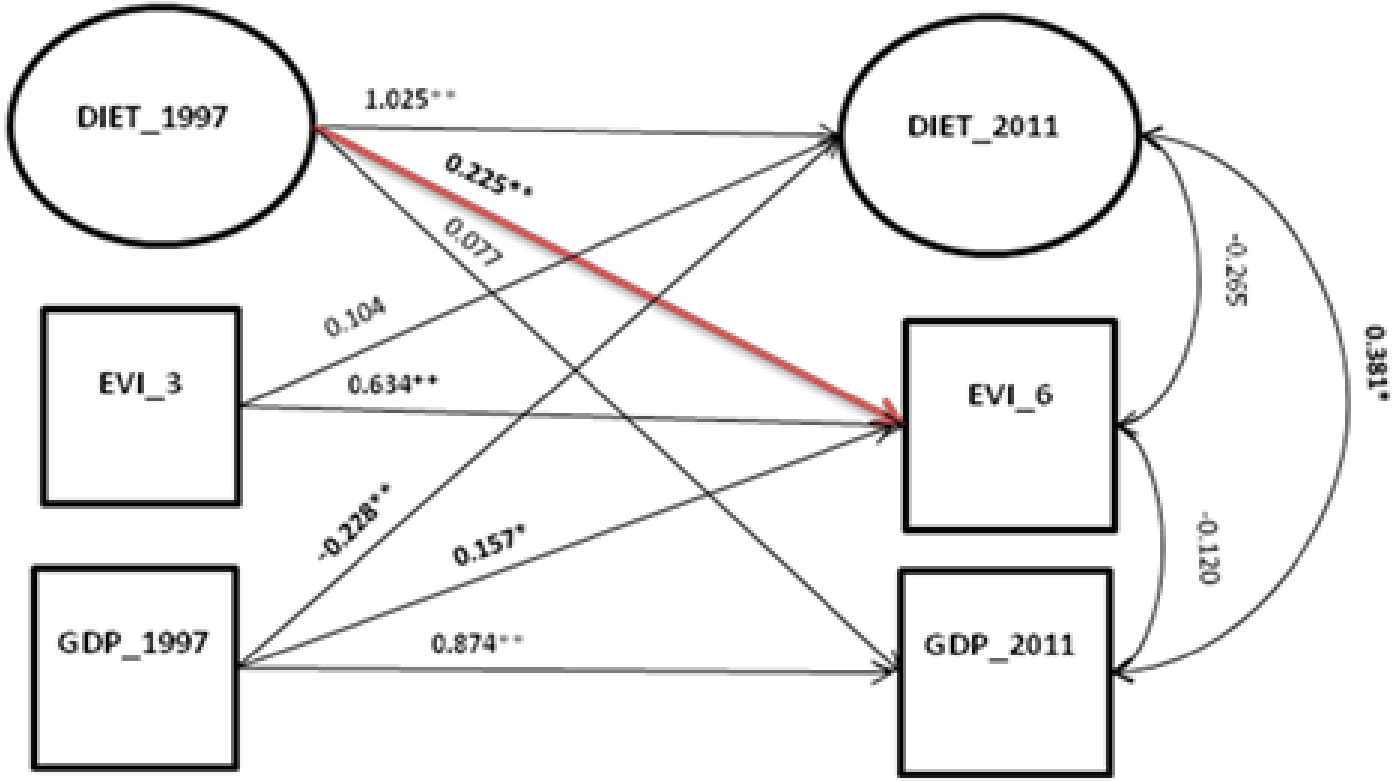
Model 5. Democracy, trade and diet in 2002-2011.



χ^2 = 0.008, df = 1, p = 0.928, CFI = 1.000, RMSEA = 0.000, SRMR = 0.000.
N = 151

ROBUSTNESS CHECK:

Model 6. Emancipative Values and diet in 1997-2011



χ^2 = 0.098, df = 1, p = 0.755, CFI = 1.000, RMSEA = 0.000, SRMR = 0.002.
N = 50

Discussion

- Improvement in diet (increased share of animal proteins and transition to the European diet) has independent (from income and trade), strong and positive effect on political change
- Transition to democracy is unlikely without a dramatic increase in consumption of animal proteins
- Causal mechanisms?
- I suggest 4 such mechanisms

Discussion

- First, it is *a social-psychological effect*: permanent access to prestigious items like meats, dairy contributes to the feeling of existential security what is important for value shift – from survival to self-expression values
- When people gain permanent access to prestigious and nutritious foodstuffs, they realize that such a fatal threat as famine is gone; it is likely to become one of triggers of value shift. Self-expression values are strongly associated with the support for democracy (Inglehart and Welzel, 2005)

Discussion

- Second, a *social-political effect*. Food autonomy is likely to increase political autonomy.
- In fact, distribution of food is one of the powerful foundations of patronage and clientelist networks in developing countries
- Political leaders exchange either subsidies of basic foods, or distribute cheap food sets to votes of the poor. However, those people who can easily afford any items in the supermarket are effectively excluded from these networks

Discussion

- Third, it is a *health effect*. Higher nutritional status is associated with better health; especially it is important for pregnancy and infancy. A good diet plays a crucial role in formation of vital organs, including normal work of central nervous system, which is responsible for cognitive capacities.
- Well-nourished children with normal cognitive development are better exposed to education. Poverty and malnutrition have a significant negative effect on children's educational performance [Fogel, 1997; Farah et al., 2006; Heckman, 2006].
- The fact that education is crucial factor in transition to democracy is the common place in the literature [e.g., Glaeser, Ponzetto and Shleifer, 2007; Castello-Clement, 2008].
- Educational attainment is associated with pro-democratic attitudes, tolerance on diversity and political engagement. Primary schooling precedes transition to democracy [Uslaner and Rothstein, 2016].

Discussion

- Forth, it is *a social-biological effect*. It is argued that animal protein-rich diet is what humans always wanted and still want.
- Only modernization and human emancipation allowed people to 'return' to animal protein-rich diet.
- A macrohistorical perspective: return to an animal protein rich diet. From a hunter-gatherer society – to agrarian empires – and to emancipation. People want this kind of diet.

Discussion

- **My main conclusion:**
- ***A good diet is a universal feature of middle class***

The best advocates for democratization?

These are responsible for the promotion of democracy!!!

Conclusion

- Practical implications
  - An alternative measure for (objective) well-being?
  - Important for policy-makers

- THANK YOU FOR YOUR ATTENTION!

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