



# Food exposure

Tenna Vestergaard Jensen, Ph.d.-fellow,  
Saxo-Institute, University of Copenhagen



## Presentation

Currently finishing my Ph.D. dissertation at the  
Department of History, University of  
Copenhagen

Title: The Danish Food Consumption in the 20<sup>th</sup>  
Century

Dissertation is part of Danorc



## Food exposure

External determinants: Store accessibility, range of food products, price of food products, possible max expenditure on food, possibilities for companies to influence consumers, state intervention...

Internal determinants: National, regional, local, social, cultural norms, individual choice...



## Food exposure in a historical perspective

Historically both the external and internal determinants of food exposure are difficult to grasp and investigate.

Food consumption and to a certain degree food intake however is not.

People eat every day, and thus information on how this aspect of life has changed throughout the life spans of the present day obesity cohortes is important.



# Statistical sources to the consumption of food 1

## **Food supply or food balance sheets**

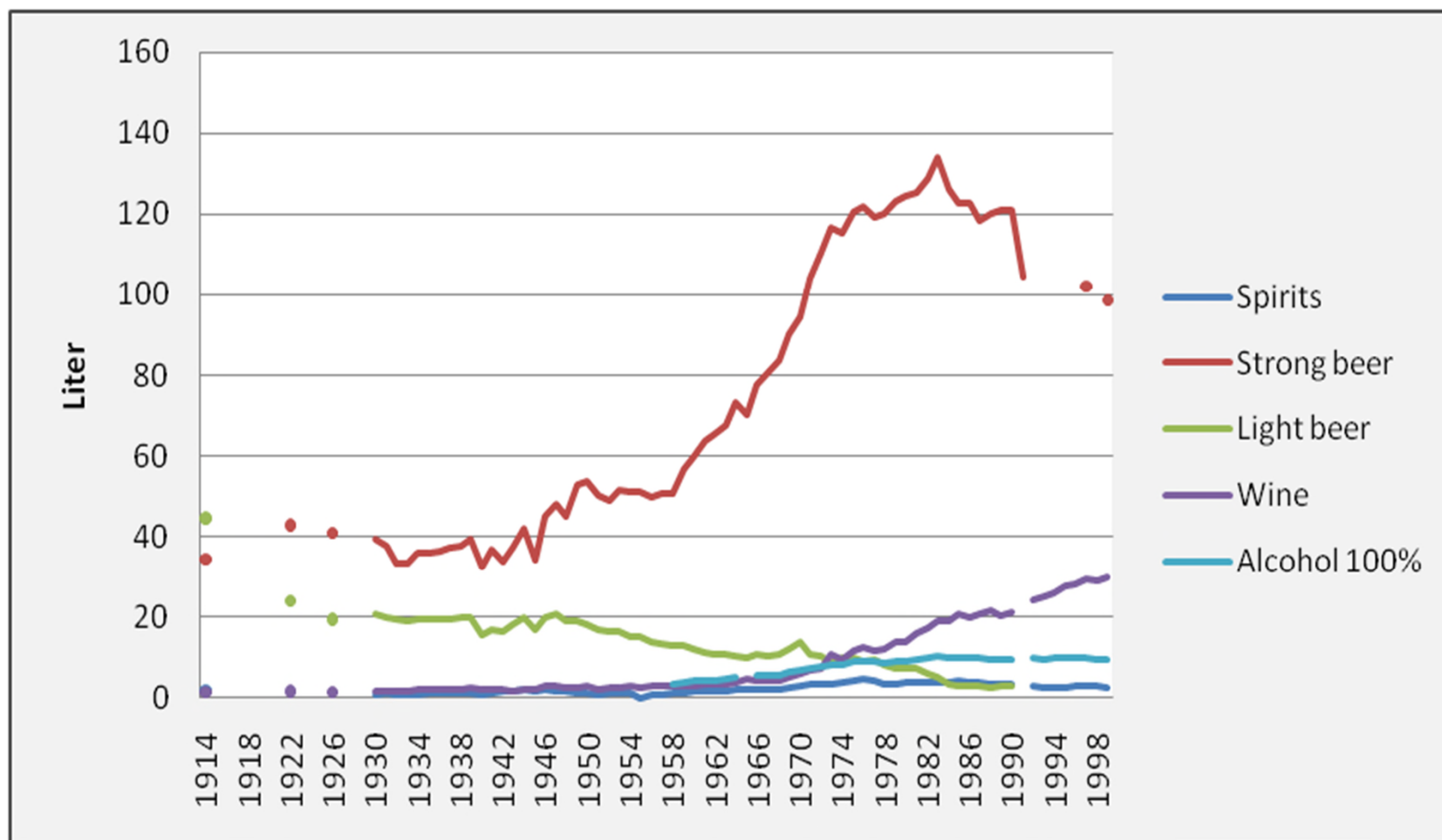
Information on the possible consumption.

FAO stat has online food balance sheets from 1961-.

Statistics Denmark *Forsyningsstatistikken* for most food products back to 1900.



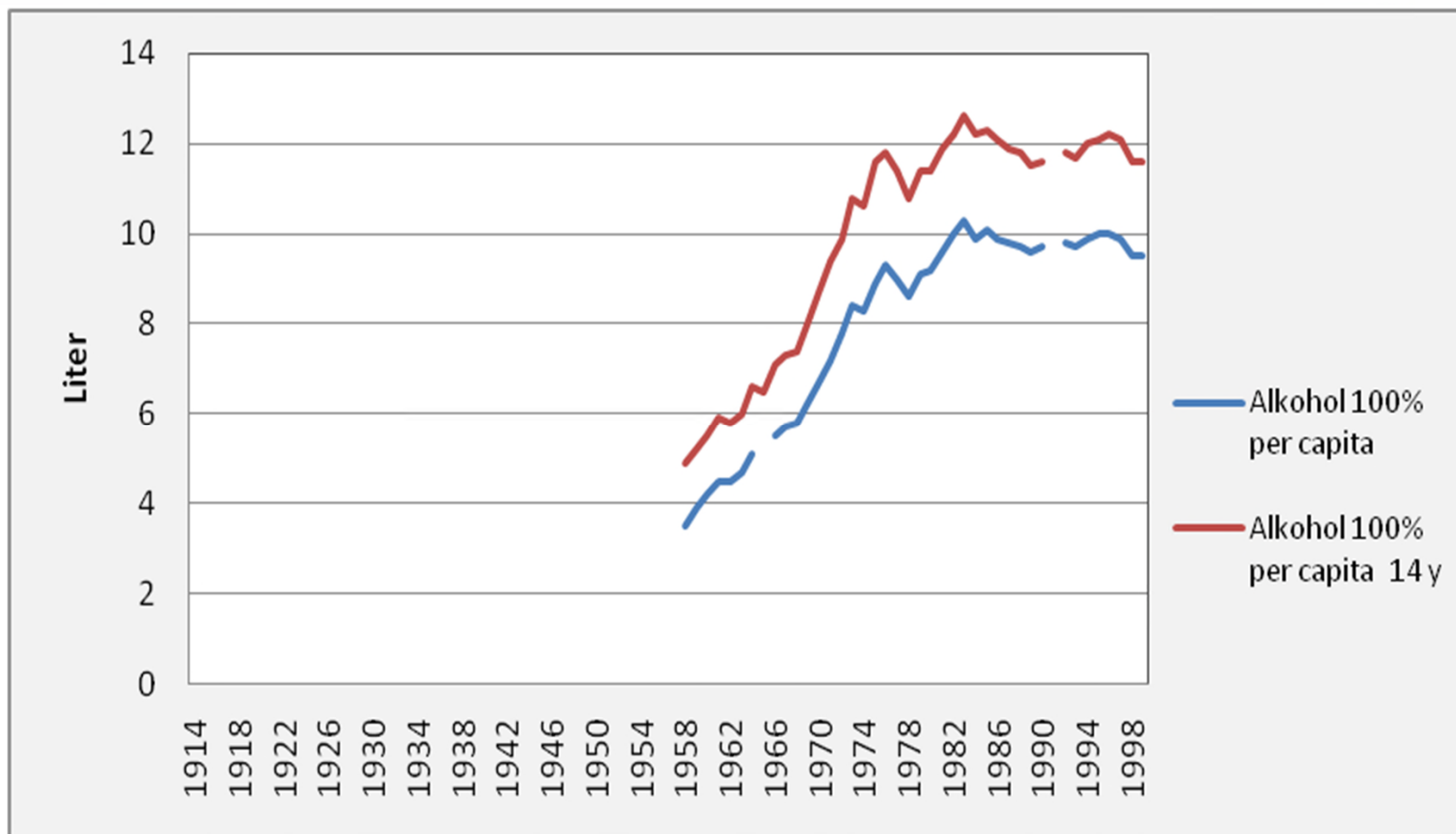
## Supply of alcoholic beverages per capita 1914 to 1999. Denmark



Kilde: Statistiske Efterretninger 1949, Statistisk Årbog 1948-55, Fagt og Trolle 2001



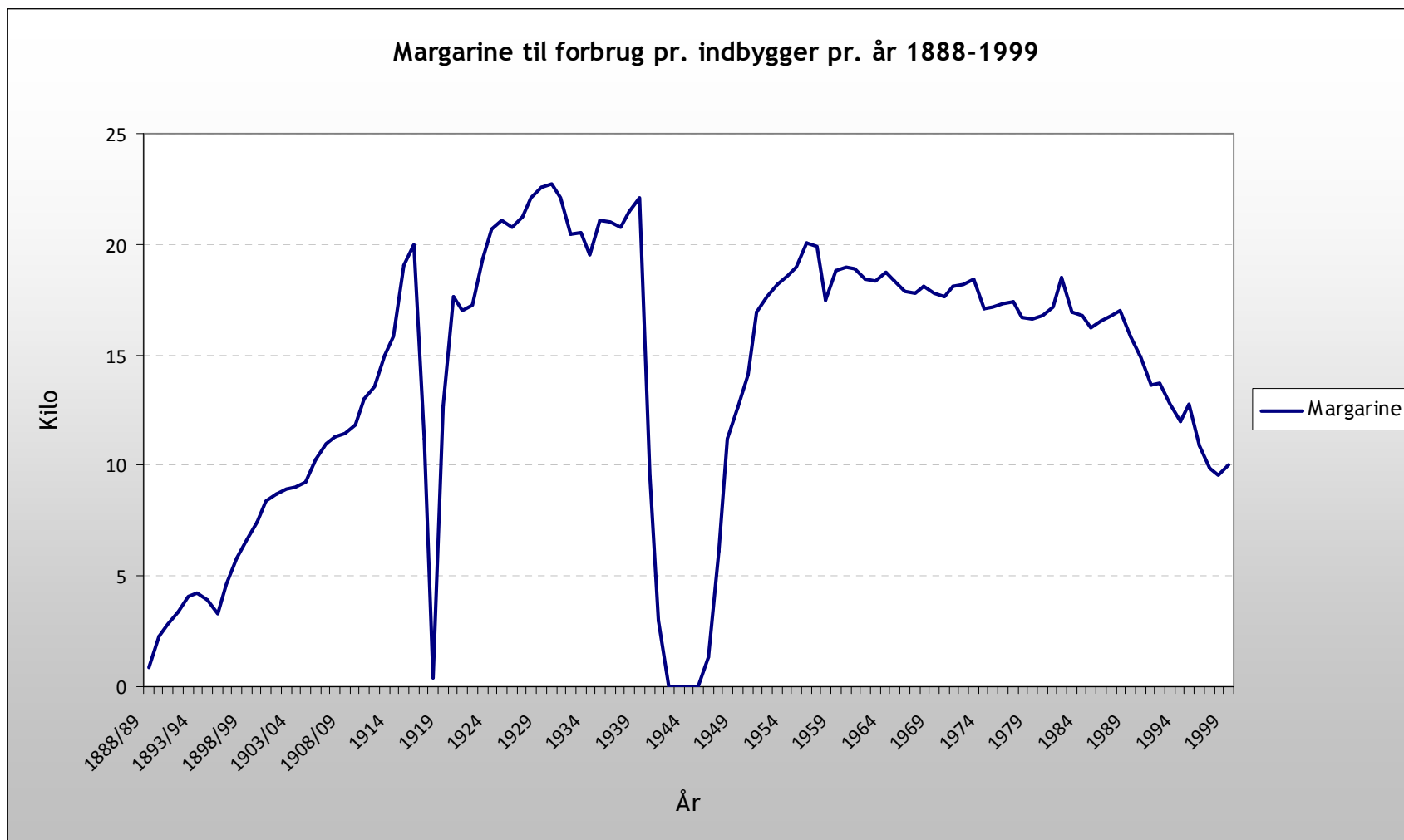
## Supply of alcohol 100 % per capita and per capita of age 14 or more from 1914 to 1999



Kilde: Fagt og Trolle 2001



## Supply of margarine per capita 1888 til 1999. Denmark







## Relevance of the food balance sheets

Enables cross country data, at least back to 1961.

Highlights the overall differences in food consumption or lack of such over time.

This does then enable us to conduct "cause" analyses and maybe link singular developments to the welfare state.

But:..



## Oils and fats used by the margarine industry in Denmark 1905 to 1965.

	1905/6	1906/7	1907/8	1908/9	1911	1916	1924	1934	1954	1965
<b>Oleomargarin</b>	26,41026	30,193	26,126	22,292	11,927	3,7657	2,2309	0,487	0	0
<b>Neutral lard</b>	32,82051	26,812	27,027	28,542	7,6152	1,4644	0,8619	2,941	0	0
<b>Premier jus</b>	15,38462	16,908	18,919	18,125	10,738	3,9749	4,2589	6,033	7,992	3,5543
<b>Whaleoil (+ fishoil 1965)</b>	0	0	0	0	0	0	0	0	17,38	34,771
<b>Lard</b>	0	0	0	0	0	0	0	0	0	7,5884
<b>Hardened oil</b>	0	0	0	0	0	1,2552	1,4703	19,34	0,077	0
<b>Coconut oil</b>	10	7,7295	8,5586	11,875	45,946	61,715	63,039	38,41	30,19	16,079
<b>Arachid og Cottonoil</b>	10,76923	5,314	4,5045	6,0417	0	0	0	0	0	0
<b>Arachid</b>	0	0	0	0	5,6813	5,6485	0	0	0	0
<b>Cotton</b>	0	0	0	0	7,097	7,3222	3,7688	2,084	2,425	0
<b>Sesame oil</b>	1,794872	10,628	9,9099	9,1667	10,274	10,669	6,9968	5,562	2,837	0,3112
<b>Soya oil</b>	0	0	0	0	0	4,1841	6,5236	13,91	5,025	16,175
<b>Palme oil</b>	0	0	0	0	0	0	0,4563	2,588	4,026	0,5095
<b>Peanut oil</b>	0	0	0	0	0	0	4,749	2	0,75	0,3347
<b>Sunflower oil</b>	0	0	0	0	0	0	3,0759	0,034	0	0
<b>Other fats</b>	2,820513	2,4155	4,955	3,9583	0,721	0	0	0,723	0	5,0556
<b>Hardened veg. oil</b>	0	0	0	0	0	0	1,7238	5,764	4,744	0
<b>Skimmet milk</b>	0	0	0	0	0	0	0	0	14,21	11,632
<b>Vitamins</b>	0	0	0	0	0	0	0	0	0,689	0
<b>Lecithin</b>	0	0	0	0	0	0	0	0	0,274	0,3347

Kilde: Danmarks Statistik, Industristatistikken div. år.



## Statistical sources to the consumption of food 2

### **Household budget surveys:**

Information on food expenditure

Contains informations on food consumption on a socio-economic and geographical level.

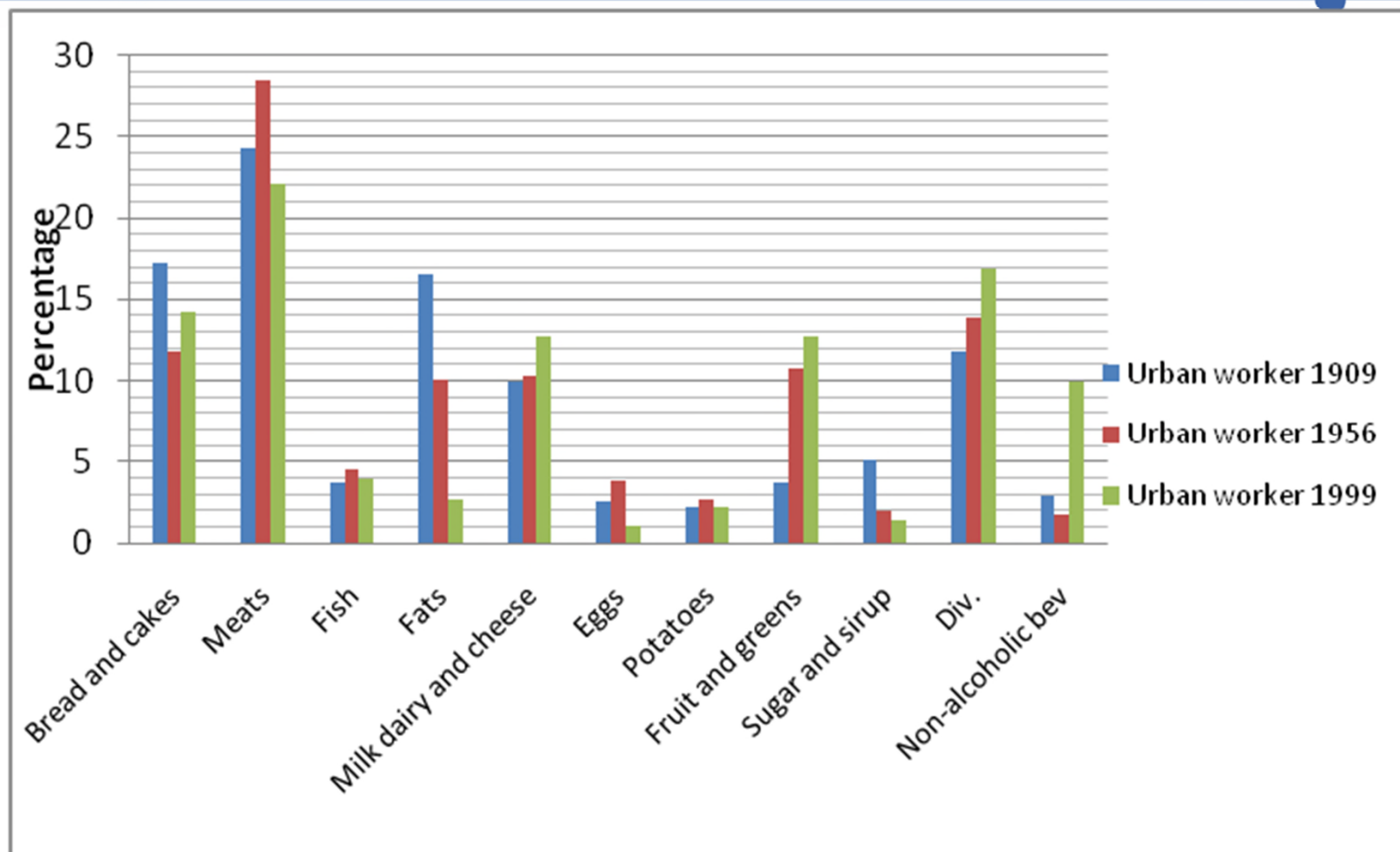
Surveys exist from 1897 to 1994 at regular intervals.  
From 1994 survey is updated every year.

The information differ between the surveys. Some include amounts spend on eating and drinking out.

Consumption listed in amounts which means they are not precise but estimations of bought amounts can be made for a range of food products.



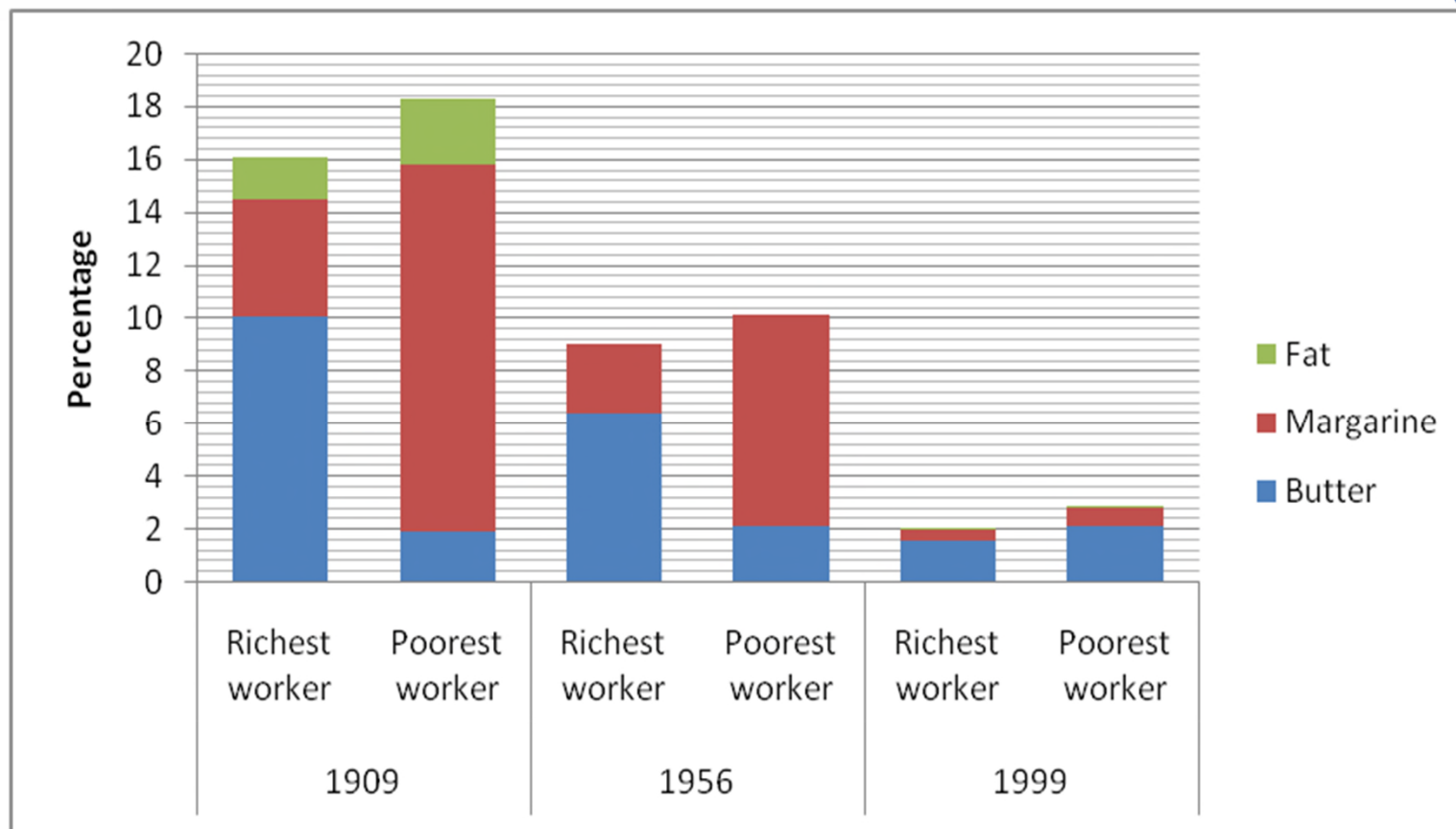
## Distribution of the expenditure of an urban worker on food 1909, 1956 and 1999



Kilder: Statistiske Meddelelser 4,40 København 1914, Statistiske Efterretninger nr. 46 1958, Statistikbanken



## Social differences in the expenditure on fats 1909, 1956 og 1999



Kilder: Statistiske Meddelelser 4,40 København 1914, Statistiske Efterretninger nr. 46 1958, Statistikbanken



## Bought amounts of selected food products urban worker 1909, 1956 and 1999

<b>Per unit</b>	<b>Urban worker 1909</b>	<b>Urban worker 1956</b>	<b>Urban worker 1999</b>
	<b>Kg</b>	<b>Kg</b>	<b>Kg</b>
<b>Butter</b>	<b>9,8</b>	<b>13,1</b>	<b>9,7</b>
<b>Margarine and fat</b>	<b>17,9</b>	<b>18,1</b>	<b>11,45</b>
<b>Ryebread</b>	<b>111</b>	<b>56,7</b>	
<b>Potatoes</b>	<b>77,9</b>	<b>87,9</b>	<b>51</b>
<b>Sugar</b>	<b>33,5</b>	<b>28</b>	<b>28,5</b>

Kilder: Statistiske Meddelelser 4,40 København 1914, Statistiske Efterretninger nr. 46 1958, Statistikbanken, detailpriser 1909, 1956, priser fra Jørgen Dejgaard Jensen



## Relevance of the household budget surveys

Reveals the social and geographical differences in food consumption within the populations of interest.

Also possible to compare at least Denmark and the UK.

Possible to link to the social status of the obese/non obese of the cohorts?



## Statistical sources to the consumption of food 3

### **Dietary surveys:**

Informations on intake.

Smaller surveys from 1880 to the present.

Large scale surveys *Danskernes kostvaner* 1985, 1995, 2005. Results available in text.

Present GfK database the only dietary investigation conducted yearly. Not publically accessible.





# Statistical sources to the consumption of food 4

## **Dietary surveys including fast food**

Survey on meal patterns and fast food consume among adolescents 1995 to 2004, DTU



## Relevance of the dietary surveys

Primarily as supplements to the other sources.  
Enables insights on which kinds of food  
different social groups bought over time.

As surveys are minor these are not as easily  
comparable.



Thank you