The Burden of Putting Food on the Table: Cuisine Complexity and Women's Labor Force Participation

Steve Berggreen Girija Borker Margarita Gáfaro*

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Abstract

This study examines how more complex cuisines—requiring greater time and specialized skills for food preparation—lead to women bearing a disproportionate cooking burden that crowds out labor force participation. Using nearly 70,000 online recipes from 137 countries, we construct a cuisine complexity index based on cooking time, ingredient variety, and spices. Merging this with individual-level data on women's economic participation, we employ an instrumental variable strategy leveraging exogenous variation in native ingredient flavor versatility. Results show that an increase in cuisine complexity by one standard deviation reduces women's labor force participation by 25 percent overall and 34 percent for married women. This effect operates through women's cooking specialization: complexity reduces meals cooked by men but not women.

I Introduction

Women globally continue to participate lesser in the labor market than men. In 2023, women's global labor force participation rate was 48.7 percent, significantly lower than the rate of 73 percent for men. The underlying regional variation and country variation is significant, where in some high-income European countries, the gap is smaller with women's participation exceeding 70 percent. While in other parts of the world, such as the Arab States, Northern Africa, and Southern Asia, the gender gap widens dramatically, ranging from 46 to 54 percentage points (pp). In this paper, we examine how much of these gender differences across the globe are rooted in differential cuisine complexity.

The literature documents several drivers of these gender gaps. Cultural norms remain central, shaping expectations about women's roles in ways that constrain labor supply

*Berggreen: Stanford University, (stevebc@stanford.edu, Borker: DIME, World Bank (gborker@worldbank.org), Gáfaro: Banco de la República, Cali, Colombia (mgafargo@banrep.gov.co). We thank Mukta Das, Andrew Foster, Paul Christian and Rohini Pande for their feedback. We are grateful to Xinyu Ren and Angela Marcela Rojas Franco for exceptional research assistance, and to Paola Poveda and Varun Chati for supporting parts of the analysis. This paper was made possible by the data shared by Cookpad and Gallup UK.

(Jayachandran, 2021). A related strand highlights women's greater need for job flexibility, including predictable hours and limited mobility demands, which constrains their occupational choices when such flexibility is scarce (Ho, Jalota and Karandikar, 2024).

Emerging research emphasizes the role of aspirations, showing that perceptions of feasible opportunities and exposure to role models shape young women's education and labor-market decisions (Orkin et al., 2023; Ahmed et al., 2024). Gender gaps in competitive preferences also matter, with women entering competitive environments at lower rates even conditional on ability (Niederle and Vesterlund, 2007), having implications not only for overall labor market participation but also in specific sectors. Constraints related to safety and mobility impose additional barriers, limiting women's human capital accumulation and their feasible job sets by shaping location and commute choices (Borker et al., 2021).

On the care side, women are substantially more likely than men to report child and home responsibilities as reasons for not engaging in paid labor (Addati et al., 2018). Unmet childcare needs have been found to affect women's labor supply on the extensive margin (Marcos, 2023), on the intensive margin (Delecourt and Fitzpatrick, 2021), the location (Delecourt et al., 2023) and even the type of work they do (Heath, 2017; Berniell et al., 2021).

This paper assesses how homecare burden, specifically the burden of food preparation affects women's labor force participation. Time-use data consistently show that women bear the primary responsibility for routine household tasks relative to men, especially when it comes to cooking where women provide 85–90 percent of the time spent on household food preparation (FAO, 2011). This is an obligation that requires related human capital investments at an early age, that imposes significant time cost of completing the task and also leads to specialization over time, potentially creating a trap that's hard to escape. We provide what to our knowledge is the first evidence on how the complexity of the food that is prepared and consumed in different contexts shapes women's participation in the workforce.

To identify the causal effect of cuisine complexity on women's labor force participation,

we propose an instrumental variable (IV) based on the flavor versatility of a country's native ingredients. This measure captures the number of chemical flavor compounds shared between native ingredients and a broader set of ingredients used in world cuisines. We use this measure of flavor versatility to explain variation in contemporary recipe complexity. We define complexity as an index that combines cooking time, number of spices and number of other ingredients, to capture how involved the daily food burden is in a household. Using data on almost 70 thousand recipes across 137 countries that we scraped from the web, we find that a 1 SD change in cuisine complexity of a country is associated with a 25 percent decrease in women's labor force participation at extensive margin, a 34 percent decrease in labor force participation by married or cohabiting women and decrease of 25 percent in the likelihood of full time employment for women, on the intensive margin.

This paper contributes to the broader persistence literature documenting how historical and geographic conditions shape contemporary economic behavior (Acemoglu, Johnson and Robinson, 2001; Galor and Özak, 2016; Alsan, 2015). Most closely related are studies showing how ancestral gender divisions of labor continue to influence gender norms and labor allocation today (Alesina, Giuliano and Nunn, 2013; Carranza, 2014; Becker, 2025; Fredriksson and Gupta, 2023). Our contribution is twofold. First, we introduce a new geographically determined instrument and show that it predicts both cuisine characteristics of countries as well as female cooking time and labor supply, even conditional on a rich set of controls. Second, because our mechanism operates partly through a *contemporary* human-capital channel, the policy implications are clearer than presently in the literature. For example, early-life investments in cooking skills for boys may be more effective in reducing gender labor gaps than efforts to shift deep-seated cultural norms.

II Global Historical and Contemporary Cooking Patterns

Cooking has historically been a predominantly female activity, a pattern deeply rooted in the economic and social organization of pre-modern societies. Ethnographic evidence from the Standard Cross-Cultural Sample (SCCS, Murdock and White (1969)) shows that, across a wide range of subsistence systems, women were overwhelmingly responsible for

food preparation.[1] Figure I (top panel) illustrates that female dominance in cooking was nearly universal, with only a handful of exceptions represented by islands in the Pacific Ocean.

There are several reasons why pre-modern cooking was so strongly gendered. One explanation is that gender divisions of labor were sharper in earlier economic systems, with productive activities often determined by biological and social constraints. A substantial literature links long-run gender norms to historical agricultural technologies and conditions—such as the adoption of the plough and deep-tillage soils, which tended to allocate heavy agricultural work to men (Boserup et al., 2013; Alesina, Giuliano and Nunn, 2013; Carranza, 2014), and irrigation-based agriculture which similarly favored male labor (Fredriksson and Gupta, 2023). In addition, lifeways involving pastoralism and reliance on animal husbandry are strongly associated with constraints on female mobility and lower female labor participation today (Becker, 2025). In non-agricultural societies, activities such as hunting (Kaplan, Hooper and Gurven, 2009) and fishing (BenYishay, Grosjean and Vecci, 2017) have also been subject to sex-specific specialisation. These are some aspects of premodern activities that may have hindered female involvement in labor market activities across a wide range of subsistence systems, and thereby reallocating female labor to household activities such as cooking.

Over the twentieth century, however, the transformation of gender norms and structural change in the economy dramatically altered the organization of household labor. Urbanization, the rise of the service sector (Sayer, 2005; Bianchi et al., 2012), and the diffusion of time-saving household technologies (Goldin, 2006) substantially reduced the amount of time women spent cooking. However, for these developments to translate into higher female labor force participation, they must raise women's productivity in the labor market more than in domestic production (Afridi, Dinkelman and Mahajan, 2018).[2] In

[1] These ethnographic observations—while recorded around the late nineteenth and early twentieth centuries—were explicitly designed to capture lifeways believed to reflect pre-modern or early-contact conditions.

[2] Afridi, Dinkelman and Mahajan (2018) show that in India, expansions in primary education increased home production relative to market work, because basic education raised the returns to domestic tasks more than to market production.

the next section, we formalize this idea by modeling women's productivity in the labor market relative to home production (cooking).

These long-run changes are reflected clearly in contemporary global cooking patterns (Figure I, bottom panel). Using data from the global Cookpad survey we observe that overall, women today cook a substantially smaller share of meals than ethnographic evidence suggests for pre-modern societies. Importantly, however, the decline in female cooking has been far from uniform. In some regions, especially South Asia, the Middle East, and North Africa, women remain responsible for the overwhelming majority of all cooking. In contrast, in Western Europe and North America, as well as parts of Southern Africa and East Asia, gender gaps in cooking have narrowed dramatically or, in some cases, nearly closed.

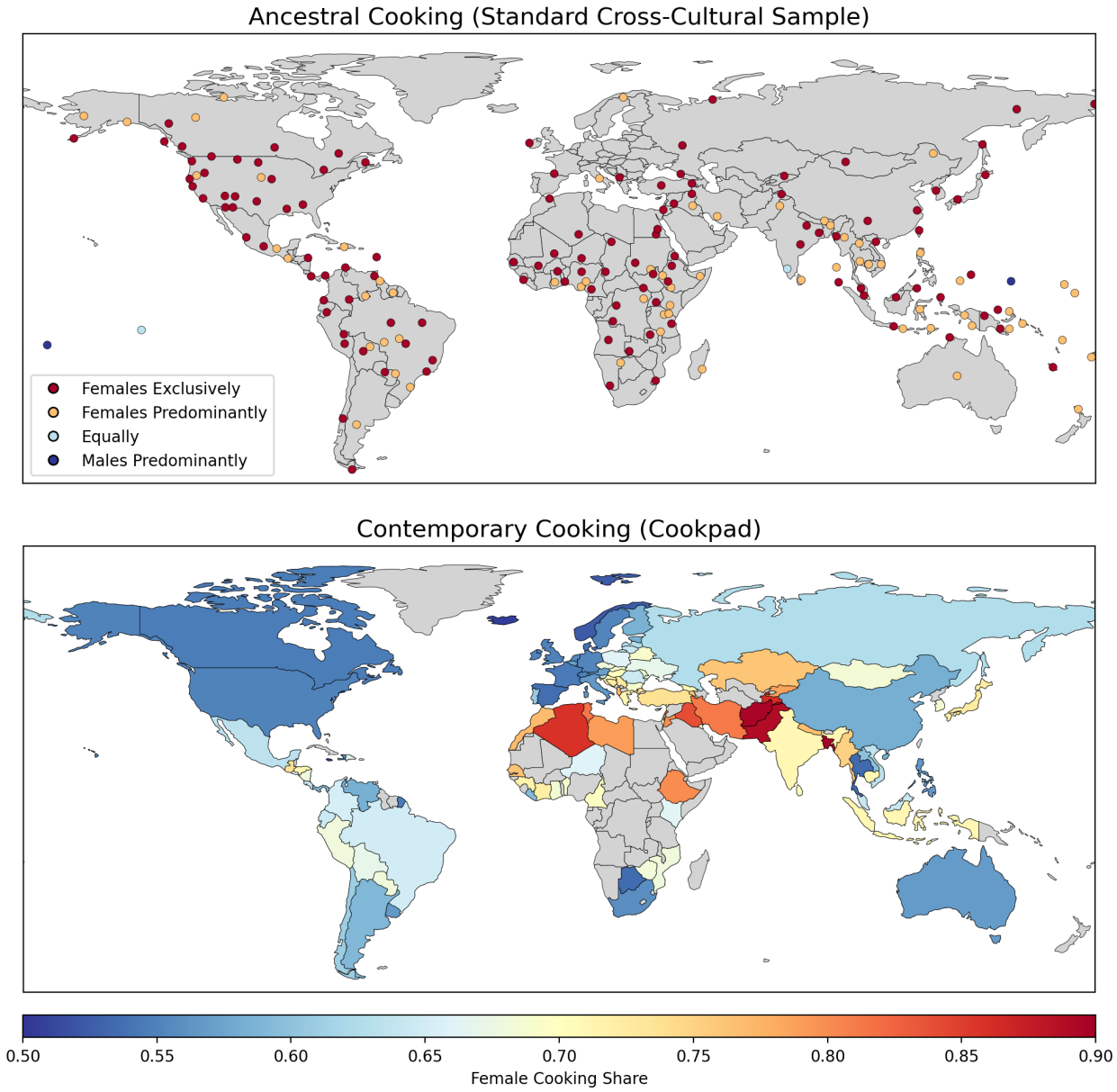
Thus, modernization has led to cross-country divergence in female cooking, with some regions maintaining traditional divisions of labor while others have undergone substantial shifts. Understanding the drivers of this divergence in cooking, and the implications for female labor force participation, motivates the simple model presented in the next section.

III A model of intra-household division of labor & cooking

To interpret the evolution of the female share of cooking in Figure I and to derive testable predictions for women's labor force participation, we develop a simple model of household time allocation. The model captures two forces emphasized in the literature: *(i)* long-standing male advantages in labor market earnings, and *(ii)* female advantages in cooking-related human capital, shaped by gendered skill transmission and local cuisine complexity.

Consider a household with a man m and a woman f. With equal bargaining power, total household utility is the sum of individual utilities: $U = u_m + u_f$. Following Becker (1965), both spouses derive utility from household income Y, food quality F, and individual leisure Z_g. Here, leisure should be understood as all non-market, non-cooking

Figure I: Ancestral and Contemporary Labor Division of Cooking



Note: The top panel shows the distribution of the variable *Food Preparation: Cooking (sexual division of labor)* from the Standard Cross-Cultural Sample (Murdock and White, 1969) for 186 ancestral societies around the world. The bottom panel represents the share of total meals cooked by women according to the Cookpad survey data.

demands that capture an individual's responsibilities and needs. Utility takes the form

$$u_m = \ln(Y/2) + w_c \ln(F) + \ln(Z_m), \tag{1}$$

$$u_f = \ln(Y/2) + w_c \ln(F) + \ln(Z_f), \tag{2}$$

where $0 \leq w_c \leq 1$ measures the relative weight placed on food quality.

Daily time can be allocated to labor (L_g), cooking (C_g), or leisure (Z_g):

$$Z_g = 16 - L_g - C_g, \qquad g \in \{m, f\}.$$

Household income is produced in the labor market:

$$Y = \alpha L_m + L_f, \qquad \alpha \geq 1,$$

where α is the male wage premium. Historically, high values of α might for instance reflect physical advantages in the labor market, constraints on female mobility, or wage discrimination.[3] Modernization reduces α towards one and thereby increases female relative earning potential.

Food is produced within the household via a CES technology:

$$F = \left(C_m^{\rho} + \beta C_f^{\rho}\right)^{1/\rho}, \qquad \rho < 1,\ \beta \geq 1.$$

Two parameters determine the allocation of cooking: β is the *female productivity advantage* in cooking, capturing gendered skill transmission and cuisine complexity, and ρ determines the substitutability between male and female cooking inputs.[4] In societies with complex cuisines—often involving spices, multistep preparations, and gendered learning traditions—women accumulate higher cooking-specific human capital, reflected in larger β.[5]

Hence, the household's objective can be stated as:

[3] See Section II for more background.

[4] For example, while one household member is cooking, the other may have to attend to the children, or do other chores not explicitly modeled here.

[5] Ethnographic records reveal that daughters historically contributed substantially more to cooking than sons across the vast majority of observed societies.

$$\max_{L_m, L_f, C_m, C_f} U = \underbrace{2\ln\left(\frac{\alpha L_m + L_f}{2}\right)}_{\text{Income Utility}} + \underbrace{2w_c \ln\left((C_m^\rho + \beta C_f^\rho)^{1/\rho}\right)}_{\text{Food Utility}} + \underbrace{\ln\big(16 - (L_m + C_m)\big)}_{\text{Male Leisure Utility}} + \underbrace{\ln\big(16 - (L_f + C_f)\big)}_{\text{Female Leisure Utility}} \tag{3}$$

This yields the following results.

Proposition 1 (Female share of cooking). *In any interior solution, the female share of household cooking is increasing in women's cooking productivity β and decreasing in the male wage premium α:*

$$\frac{\partial}{\partial \beta}\left(\frac{C_f}{C_m}\right) > 0, \qquad \frac{\partial}{\partial \alpha}\left(\frac{C_f}{C_m}\right) < 0.$$

Proof. See Appendix A.4.

Because time is fixed, increases in female cooking time crowd out female labor time. The strength of this crowd-out depends on α: when α is large, female labor supply is already low, so changes in β have limited marginal effect. However, when α is close to one (modern economy), small changes in β generate large differences in female labor. This leads to the next proposition:

Proposition 2 (Female labor force participation). *Let $s_f^L = L_f/(L_f + L_m)$ denote the female share of household labor supply. Then:*

$$\frac{\partial s_f^L}{\partial \beta} < 0, \qquad \frac{\partial^2 s_f^L}{\partial \beta \, \partial \alpha} > 0.$$

Proof. See Appendix A.4.

To quantify these mechanisms, we solve the model numerically over a grid of male wage premiums $\alpha \in [1, 2]$ and female cooking productivity advantages $\beta \in [1, 2]$. Values of α close to 2 capture premodern economies with high returns to physical labor and limited female mobility, while values near 1 represent modern economies with gender-equal earning potential. Similarly, lower values of β represent gender-equal cooking skills or

low cuisine complexity, while higher values represent more complex cuisines and stronger gendered transmission of cooking skills.

We set $\rho = 0.85$, which allows near-substitutability between male and female cooking inputs without generating corner solutions.[6] We calibrate the utility weight on food to $w_c = 0.2$, consistent with the average daily cooking time observed in global data (Appendix A.5).

Figure II displays the resulting allocations of female cooking and labor time.[7] The top panels plot female cooking hours and the female share of total household cooking as a function of α and β. In "premodern" economies with high male earning advantage (α large), women perform nearly all cooking regardless of cuisine complexity, reflecting the dominance of the opportunity cost channel. This matches the historical patterns in Figure I. As economies modernize ($\alpha \to 1$), variation in cuisine complexity generates large divergence in female cooking shares: high-β societies (e.g. South Asia) sustain high female cooking, while low-β societies (e.g. Scandinavia) experience substantial declines.

The middle panels show the corresponding predictions for female labor supply. As women cook less, they work more, producing a mirror-image pattern. In premodern economies, female labor supply is uniformly low, and variation in β has little effect. In modern economies, however, higher cuisine complexity (higher β) crowds out female labor supply, as predicted by Proposition 2. This divergence matches contemporary cross-country patterns in women's labor force participation seen in Figure I.

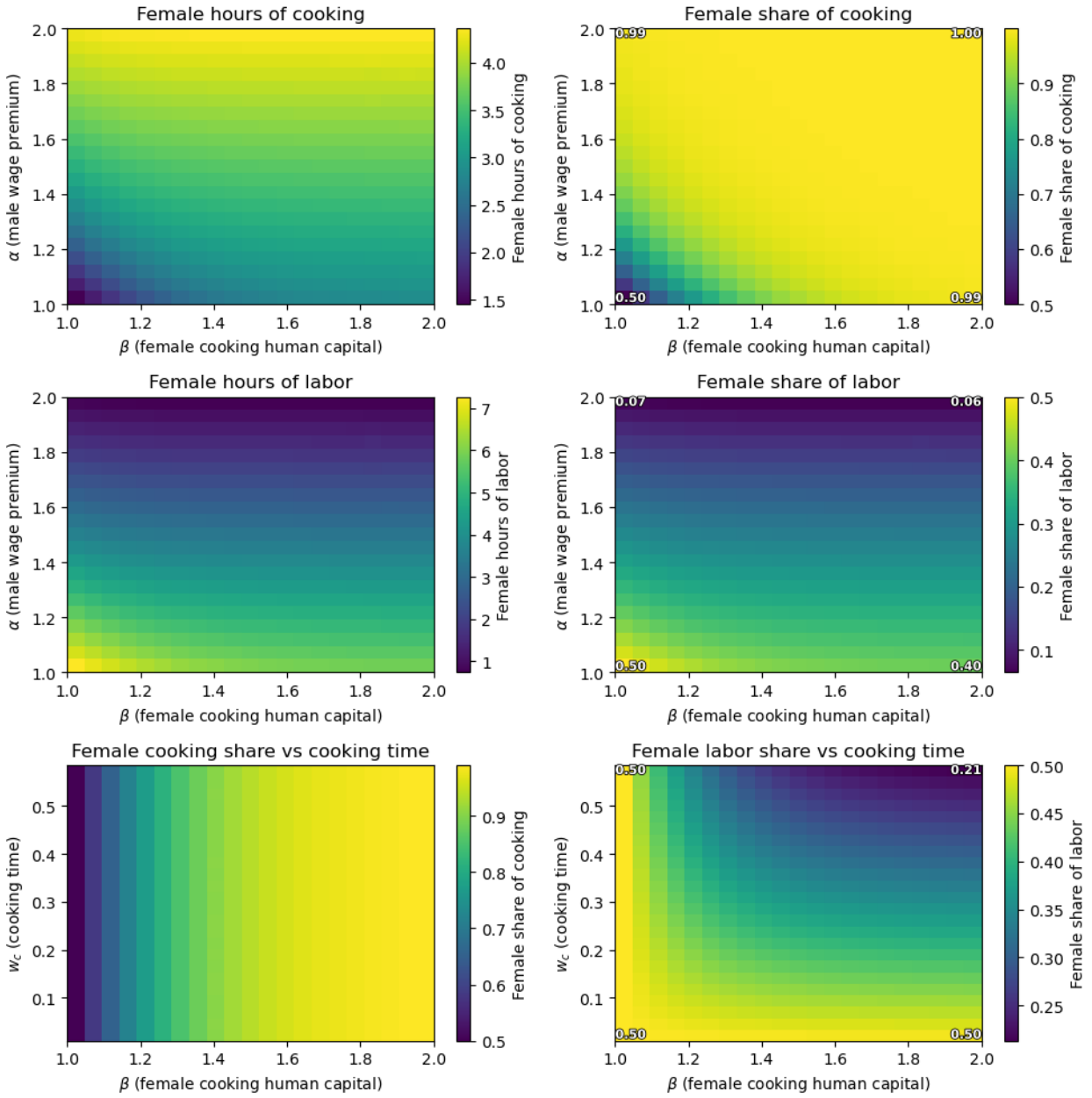
In the bottom panels, we fix $\alpha = 1$ (assume equal earning potential) and instead vary the utility weight on food w_c. The bottom-left panel shows that the *female share of cooking* depends entirely on β and is insensitive to how much total cooking time the household chooses. The bottom-right panel shows that cooking time matters for the female labor share only when both β and w_c are high, because substantial cooking requirements then crowd out labor time. This illustrates why *cuisine complexity* (a determinant of β), rather

[6] If $\rho = 1$, inputs become perfect substitutes and the household chooses a corner solution where only one person cooks, which is inconsistent with observed cooking patterns.

[7] Predicted allocations of male cooking and labor time are shown in Figure A2.

than *cooking time*, is the key explanatory variable in the empirical analysis.

Figure II: Model predictions for the hours and shares of female cooking and labor



Note: In the top and middle panels, $w_c = 0.2$. In the bottom panels, $\alpha = 1$.

Propositions 1 and 2 together with the numerical simulations yield three testable predictions:

(P1) **Cuisine complexity increases the female share of cooking.**

(P2) **Cuisine complexity reduces female labor force participation.**

(P3) **Cuisine complexity amplifies gender gaps in labor force participation.**

In addition, the model implies that the influence of cuisine complexity is strongest when $\alpha \approx 1$, i.e. in modern economies where male and female earning potential is similar. Because our empirical tests rely on contemporary data, we cannot directly examine how this mechanism varies between premodern and modern economies. Instead, this implication is reflected in the descriptive historical–modern patterns shown in Figure I. We evaluate (P1)–(P3) in the subsequent empirical analysis.

IV Data

We draw on multiple data sources to construct the components of our analysis. To measure countries' cuisine complexity, we compile recipe information and build a country-level dataset that records average total cooking time, average number of ingredients, and average number of spices. To construct the flavor versatility measure, our instrumental variable, we combine four country-level datasets that allow us to quantify the prevalence of flavor compound sharing among country ingredient baskets. Country-level controls were obtained from three additional data sources providing geographical and economic characteristics. Finally, we merge these datasets with individual-level data from Gallup's World Poll and Cookpad Home-Cooking Survey to obtain labor-force participation indicators. Below we describe each data set in detail.

IV.A Recipe Data

To construct measures of cuisine complexity across countries, we relied on recipe data obtained through web scraping of online recipe platforms and digitized cookbooks. We first designed a short survey for World Bank local staff to identify the most commonly used recipe websites in their respective countries. From these suggestions, we selected

only sources that met our minimum data requirements, specifically the availability of total cooking time, ingredient lists, and preparation instructions.

During the scraping process, we developed a country-specific ingredient-tagging algorithm aimed at parsing unstructured ingredient lines. The algorithm identifies and extracts four key eentlements: quantity, unit, ingredient name, and any accompanying comments. While the core logic of the tagger is consistent across countries, adjustments were necessary to accommodate country-specific formatting conventions in ingredient descriptions. The final dataset contains almost 70,000 recipes from 137 countries representing 70% of the world population. For each recipe, we compiled detailed variables capturing multiple dimensions of preparation and composition, with our primary indicators of cuisine complexity being total cooking time, the number of ingredients, and the number of spices used in each recipe. Table B1 shows that on average in our data a recipe takes an hour and 20 minutes to be prepared, uses about ten ingredients and over two spices.

IV.B Flavor Versatility

We exploit exogenous variation in cuisine complexity arising from a measure of ingredient versatility, defined by the interactions between the flavor compounds present in each country's native ingredients and those found in non-native ingredients. To construct this measure, we first identified native ingredients using two data sources. The first source is the Crop Origin database developed by Ruben Milla (2020), which documents 866 food crop species and provides precise geographic coordinates for each. When a country had no native ingredients according to this database, we assigned the set of native ingredients corresponding to other countries in the same region.

The second source for native ingredients, is a dataset from the International Center for Tropical Agriculture (CIAT), which classifies agricultural crops by region. Since this dataset does not assign crops to specific countries, we considered an ingredient to be native to a country when the suitability of that country for cultivating the ingredient exceeded the global median suitability for that ingredient. Suitability information was obtained from data produced by the Food and Agriculture Organization of the United Na-

tions (FAO). Suitability refers to the extent to which local soils can support a given crop, considering key factors such as nutrient availability, nutrient retention, rooting conditions, drainage, salinity or sodicity, and other physical constraints captured by soil phases (Fischer et al., 2021).

Flavor compound data were obtained from FlavorDB (2017), a database that documents ingredients and their associated flavor molecules or chemical compounds responsible for certain taste and smell in foods. The dataset covers 101 ingredients across major food categories such as fruits, vegetables, cereals, legumes, herbs, and spices. Combining this information, the versatility measure is defined as the number of shared flavor molecules between every pair of ingredients in a country, under the condition that at least one of the two ingredients is native. Section V.C.1 provides further details on the construction of this measure.

IV.C Labor Force Participation

We use Gallup's World Poll and Cookpad Home-Cooking Survey, which provides monthly observations from May 2018 to February 2023 for individuals in more than 150 countries (including 109 covered in our recipe dataset). The survey offers detailed information on cooking habits, rich demographic characteristics, and comprehensive labor-market indicators such as employment, unemployment, hours worked, and income. In the analysis we use information the information collected before COVID-19 to avoid biases resulting form the heterogeneous effects of the pandemic across countries.

From Table B1 we can see that in this data 54 percent of the sample are women of which 55 percent are participating in the labor force compared to 73 percent of men. Conditional on being in the labor force, 60 percent of women and 72 percent of men are employed full time. In this data, we see a household prepared 6.6 meals last week, where a meal is either lunch or dinner. In terms of who cooks, 40 percent of women say that their spouse cooked vs. 89 percent of men.

IV.D Country-Level Controls

To account for cross-country heterogeneity in characteristics that may influence both cuisine complexity and labor-market outcomes, we include geographic and economic controls. Some geographic controls were obtained from the FAO, such as average altitude (in meters), total precipitation in 1999 (in millimeters), average soil pH, and the most common climate zone. We also incorporate additional geographical characteristics used in Galor and Özak (2016), including absolute latitude, average elevation, temperature, terrain roughness, distance to the sea or navigable rivers, and a landlocked indicator. Moreover, we use country-specific controls such as the number of recipes obtained from the scraping process; suitability, defined as the country's average suitability for ingredients based on both FAO data and our recipe database; and staple suitability, based on FAO's ingredient suitability measures. Finally, we control for economic and trade factors, including GDP per capita for 2019 (World Bank) and average trade distance.

V Empirical Strategy

In this paper we study the effect of cuisine complexity on female labor force participation. We propose an empirical strategy that proxies for cuisine complexity using an index composed of average cooking time, average number of spices and average number of ingredients used in local recipes. Our identification strategy uses a novel instrumental variable that exploits plausibly exogenous variation in cuisine complexity arising from the interaction between flavor compounds in native and external ingredients in each country. In this section, we present our empirical specification, motivate the use of a combination of time, spices and ingredients as a proxy for cuisine complexity, and describe our identification strategy.

V.A Main Specification

We use individual-level survey data to estimate the following equation separately for individuals of gender $j \in \{\text{female}, \text{male}\}$:

$$y_i^j = \alpha^j + \beta^j CC_{c(i)} + \boldsymbol{X'_{c(i)}}\boldsymbol{\Lambda^j} + \boldsymbol{W'_i}\boldsymbol{\Omega^j} + \epsilon_i^j, \tag{4}$$

where y_i^j represents labor market outcomes for individual i in country c, including an indicator variable for labor force participation and for full time employment conditional on participating in the labor force; $\mathbf{X}_{c(i)}$ is a vector of country-level controls capturing heterogeneity in the quality of data available, as well as, geographic and economic characteristics of the countries that can influence both labor market conditions and cuisine complexity. In some specifications, we also control for individual and household characteristics, $\mathbf{W}_i$. Below, we describe in detail the control variables we include and our identification assumption conditional on these variables.

Our variable of interest, $CC_{c(i)}$ is an index of cuisine complexity in local recipes for country c, measured in standard deviations (SD). We use a composite cuisine complexity index of cooking time, spices and ingredients computed using principal component analysis based on the assumption that each of the three parameters captures factors that contribute to the complexity of local recipes. In section V.B, we motivate the use of this proxy based on existing literature on food anthropology. With this proxy, the coefficient β^j captures the effect of cuisine complexity on labor market outcomes for individuals of gender j.

In our theoretical framework, cuisine complexity leads women to specialize in household food production while men specialize in work outside the household. If these effects operate in the extensive margin, this implies a negative effect of cuisine complexity on women's likelihood of labor force participation ($\beta^{\text{female}} < 0$) and a positive effect for men ($\beta^{\text{male}} > 0$). Moreover, cuisine complexity may also affect outcomes at the intensive margin among those who participate in the labor market, by reducing women's likelihood of full-time employment while increasing that of men.

Omitted variables, reverse causality, and measurement error may bias the OLS estimates of β^j. Section V.C describes the identification strategy that we propose to estimate the cause effects of cuisine complexity on labor force participation and other labor market outcomes. We estimate Equation 4 separately for adult women and men, as well as for the subsample of married or cohabiting individuals. In alternative specifications, we pool all observations and include a gender dummy along with its interaction with the CC index. This allows us to identify how cuisine complexity affects the gender gap in labor market outcomes. Section V.C.3 describe this specification.

Because our variable of interest varies at the country level while the outcomes are measured at the individual level, all specifications cluster standard errors at the country level.

V.B Measuring Cuisine Complexity

Cuisine is described as the culturally constructed rules for food preparation (Crown et al., 2000). We use the average cooking time, the average number of spices and number of ingredients in local recipes to create an index of cuisine complexity, using principal component analysis. Each component separately contributes to the realization of more complex food. More cooking time has been associated with more complex food and cooking techniques across the world, from *Biryani* in South Asia to *Mole* in Mexico and *Doro Wat* in Ethiopia. Similarly for spices, due to their flavor enhancing properties, are a central ingredient in local cuisines around the world (Van Wyk, 2024). Their flavors derive from volatile compounds whose release and transformation depend on specific handling and preparation techniques (Briscione and Parkhurst, 2018). Several cooking practices have evolved to extract these compounds through controlled heating and staged incorporation of spices.[8] The appropriate technique varies by spice and type of preparation, and their effective use requires specialized knowledge and active time dedication. In this sense,

[8]These techniques include blooming or tempering, where spices are briefly fried in hot fat to release aromatic oils; toasting, which heats whole spices in a dry pan to intensify flavor before grinding; flavor layering, which adds spices at different stages of cooking to build depth; and balancing flavor profiles by combining spices with complementary characteristics, among others.

cuisines that rely more heavily on spices are likely more demanding on cooking-specific skills and are less easily substituted by modern appliances or simplified preparation methods. The same logic applies for a larger number of ingredients to work with, master their preparation and in many cases account for sequential cooking.

In Section VI.D, we show that our main results are robust to using each component of the CC index separately like the average cooking time or simply the average number of spices in local recipes, as alternative measures of cuisine complexity.

V.C Identification Strategy

There are several sources of bias in our OLS estimates. On the one hand, richer countries may develop more complex cuisines—using a larger variety of ingredients, including spices—while also exhibiting stronger labor demand for women. This could result in a downward bias of our estimates. It is also possible that countries with environmental conditions that generate a productivity advantage for male workers—and thus lower labor demand for women—develop more complex cuisines because women have more time available to innovate in cooking. This results in reverse causality and the overestimation of the negative effects of cuisine complexity on labor market outcomes. Historically, places with more favorable environmental conditions for diverse spices have also been associated with greater colonial presence to capture high-value spice trade rents (Findlay and O'Rourke, 2007; Chaudhuri, 1978; Acemoglu, Johnson and Robinson, 2001; Dell, 2010). At the same time, Colonial institutions have been found to introduce gender-biased economic structures and norms that affected contemporary women's labor force participation (Boserup, 1970; Acemoglu, Johnson and Robinson, 2001; Iyer, 2010; Alesina, Giuliano and Nunn, 2013; Jayachandran, 2021). Combined, the colonial aspect of spices could lead to an overestimation of the cuisine complexity effect on women's economic participation. Places with a higher cooking time might be places with the worst gender attitudes or gender norms that manifested in favoring foods that are time-intensive and since there is inertia in tastes (Atkin, 2013) we see the same recipes and food in those countries. Finally, measurement error may arise because the set of recipes in our data may not perfectly

represent the meals households typically prepare at home, leading to attenuation bias.

We propose an identification strategy that exploits plausibly exogenous variation in spice use arising from the flavor-profile versatility of each country's native spices. We argue that, conditional on countries' overall agricultural potential, this variation is orthogonal to economic development and labor-market conditions, since it relates to the chemical complementarity of the basket of goods that are available in a country. This is described in detail below.

V.C.1 Instrumental Variable

We complement our identification strategy with an instrumental variable based on the flavor versatility of native spices. The idea is to combine native ingredient suitability at the country-level with exogenous ingredient-level chemical composition data. Following the work on food chemistry, we use a measure of flavor versatility based on shared flavor molecules between ingredient pairs, which has been shown to predict the combinations of ingredient pairs used in recipes around the world (Ahn et al., 2011; Briscione and Parkhurst, 2018). The instrument is constructed as follows.

For each native spice k and ingredient j in $P(k)$, the set of all ingredients in our dataset, we compute the common flavor score $c_{j,k}$, defined as the number of shared flavor molecules between the native spice and paired ingredient.[9] A spice or ingredient is considered native to a country i if suitability is above the sample median. The spice versatility score $S_{i,k}$ for a country i and native spice k is defined as:

$$S_{i,k} = \sum_{j \in P(k)} c_{j,k}\, w_{i,j} \tag{5}$$

where $w_{i,j} = 1$ if the paired ingredient j is native, or $w_{i,j} \in (0, 1)$ if the paired ingredient is non-native.

[9] There are on average 179 native spice-ingredient pairs per country. See section IV.B for more details on the data.

$$w_{i,j} = \begin{cases} 1, & \text{if ingredient } j \text{ is native in country } i, \\ \dfrac{1}{1 + \dfrac{\text{dist}_{i,j}}{h}}, & \text{if ingredient } j \text{ is non-native in country } i. \end{cases} \tag{6}$$

The distance weight $w_{i,j}$ is computed using the distance $\text{dist}_{i,j}$ between the capital of country i and the capital of the closest native origin country of ingredient j. This represents the well-established negative relationship between distance and trade, where the elasticity with regards to distance is typically close to -1 (Baier, Kerr and Yotov, 2018).[10] We use the capital as the reference location in a country, because capitals are typically hubs of population density and cultural influence, and research has found that innovations in capital cities and larger towns tend to diffuse over wider distances (Bokányi et al., 2022). Here, capitals function as entry points for new ingredients and as centers from which culinary practices diffuse to the rest of the country.

To make the distance measure scale free, $\text{dist}_{i,j}$ is divided by a half-life parameter h, which in our baseline specification is set to 2000 km. Under this specification, the influence of an ingredient declines by 50 percent with each additional 2000 km between country i and the closest native origin of ingredient j. This follows the standard "half-life" exponential decay formulation widely used in the international trade and technology diffusion literatures (Eaton and Kortum, 2002; Keller, 2002; Lychagin et al., 2016).[11]

The final versatility score V_i for each country i is defined as the average spice score of its N_i native spices.[12]

$$V_i = \frac{1}{N_i} \sum_{k=1}^{N_i} S_{i,k} \tag{7}$$

[10] The formulation of our distance weight is consistent with this literature, since the exponent on $\text{dist}_{i,j}$ is -1.

[11] 2000 km represents roughly the distance from Delhi to Tehran, or Istanbul to Paris. In robustness checks we vary the half-life measure to 3000 km and find similar results, see Tables B5 and B6

[12] In our ingredient suitability data, 104 countries are listed as having at least one native spice and are included in the IV sample.

Note that this instrument contains both an endogenous and an exogenous component. The endogenous component is the sum of ingredient-distance weights $w_{i,j}$ in (5), which operates similarly to the exposure-share term in a shift-share (Bartik-type) instrument (Borusyak, Hull and Jaravel, 2022). Countries with larger weights are more centrally positioned in the trade network, which may itself influence economic development and therefore must be treated as potentially endogenous. The exogenous component, in contrast, arises from the distribution of common flavor molecules between ingredients and functions as an exogenous "shock" that is plausibly orthogonal to country-level characteristics. Following Borusyak, Hull and Jaravel (2022), we therefore explicitly control for the sum of exposure shares in our main specifications to isolate the causal effect of interest.

V.C.2 Control Variables

We include in our specifications a battery of controls capturing geographic and economic characteristics of the countries that can influence both labor market conditions and cuisine complexity, as well as differences across countries in the quality of data available.

First, we control for the number of recipes and native ingredients identified in each country and for period of data collection. These variables account for the accuracy of the recipe and flavor–compound information used to measure cuisine complexity, as well as for time-specific factors that may have influenced survey responses in each country. Second, we include region fixed effects, GDP per capita, average trade distance,[13] and dummy variables for the country's predominant climate zone to account for overall economic conditions and potential productivity that might determine labor demand in each country.

In alternative specifications, we control for additional variables capturing countries' agro-climatic conditions and location specific factors. These variables include altitude, annual precipitation, average soil pH, mean temperature, absolute latitude, and longitude. Also, we account for terrain and accessibility using measures of terrain roughness, a

[13] Average trade distance is defined as the sum of the ingredient-distance weights described in section V.C.1.

landlocked indicator, and the distance to the nearest coast or navigable river, which previous literature has shown that affects time preferences and economic development across countries (Galor and Özak, 2016).

This set of controls helps us isolate the effect of cuisine complexity on labor market outcomes, conditional on countries' potential labor demand and level of economic development. Moreover, by examining the stability of the coefficient estimates as we progressively introduce these controls, we assess the potential for omitted variable bias in our estimates (Oster, 2019).

V.C.3 Country Fixed Effects and the Gender Gap

Our instrumental variable provides potentially exogenous variation in cuisine complexity across countries. However, we can exploit our individual level data to study differences across individuals within the same country. We do this by pooling all observations and estimating the following variation of Equation 4.

$$y_i = \alpha + \beta_0 female_i + \beta_1 CC_{c(i)} \times female_i + \boldsymbol{W_i'\Omega} + \mu_{c(i)} + \epsilon_i, \tag{8}$$

where $female_i$ is a gender indicator that takes the value of 1 for women and $\mu_{c(i)}$ is a country fixed effect. This country fixed effects accounts for all observable and unobservable factors common across genders within a country that determine both labor market outcomes and cuisine complexity. The coefficient β_1 captures the effect of cuisine complexity on the gender gap in the outcome of interest.

VI Results

VI.A Labor Force Participation

Table II presents the OLS estimates of Equation 4 when using an indicator for labor force participation as dependent variable. Panel A presents the results for all adult women in our data. Column 1 shows that in our baseline specification there is a negative relation-

ship between the cuisine complexity and female labor force participation. This relationship is stronger for married and cohabiting women, as shown in Panel B. Columns 3 to 5 show that the negative relationship remains in more stringent specifications that include a broader set of control variables. In contrast, Panels C and D show small and statistically insignificant effects for the sample of men.

Table III reports our instrumental variable estimates, for which first-stage results are presented in Appendix Table B2. As before, Panel A shows results for all women, and Panel B focuses on married or cohabiting women. Consistent with the possibility that the OLS estimates understate the true effects, the IV coefficients are larger in magnitude. Moreover, the estimates remain broadly stable across specifications, providing validating evidence for our instrumental variable.

In column 5, the most stringent specification with the full set of country-level controls, the coefficient estimate implies that a one–SD increase in cuisine complexity reduces the likelihood of labor force participation among married or cohabiting women by about 18 percentage points. This effect corresponds to a 34% reduction in average labor force participation.

Panels C and D show effects of cuisine complexity on male labor force participation that move in the opposite direction of those for women. Specifically, we observe a positive relationship that diminishes in magnitude and becomes statistically insignificant as we include additional control variables.

Column 6 shows that the negative effect of cuisine complexity on married or cohabiting women persists even after controlling for individual- and household-level characteristics that influence labor force participation and may themselves be shaped by gender norms—specifically, educational attainment, household size, and household income. Including these controls reduces the estimated effect of complexity on labor force participation among married or cohabiting women by nearly 24%.

The extent to which the remaining effect can be interpreted as a direct impact of cuisine complexity—rather than one mediated through these variables—depends on their correlation with unobserved determinants of labor force participation (Deuchert and Hu-

ber, 2017). Because these controls are likely correlated with such unobservables, we are cautious in interpreting the results as evidence on underlying mechanisms. Nonetheless, the persistence of a negative and statistically significant effect is informative about the robustness of the relationship.

VI.B Other Labor Market Outcomes

We examine whether cuisine complexity affects labor market outcomes beyond labor force participation. Table IV reports the IV estimates for the sample of women who participate in the labor market. Panels A and B use as dependent variable an indicator for full-time employment—either self-employment or wage employment—while Panels C and D focus specifically on full-time wage employment. We find negative effects of cuisine complexity on the likelihood of full-time employment, driven entirely by declines in full-time self-employment, with no detectable effects on full-time wage employment. Again, Appendix Table B3 shows statistically insignificant effects of these outcomes for men.

VI.C Mechanisms

The theoretical framework in Section III highlights women's specialization in cooking within the household as the mechanism through which cuisine complexity reduces female labor force participation. We now examine whether we find evidence consistent with this mechanism. Table V reports the IV estimates for the number of meals cooked over the past week (Panels A and B) and for indicator variables capturing whether the spouse cooked at home in the past week (Panels C and D), for married or cohabiting women and men, respectively.

Consistent with a pattern of specialization in cooking by women, the results show that complexity local recipes reduces the number of meals cooked by men and lowers the likelihood that women's partners cook at home, while increasing the likelihood that men's partners do so. Interestingly, we find no effect on the number of meals cooked by women. Taken together with the decline in men's cooking, this suggests that women's involvement

in meal preparation remains relatively constant, in the extensive margin. While in the intensive margin, any additional cooking tends to be supplied—or withdrawn—by men, which ultimately shapes the extent to which women can free up time to participate in the labor force. Our results suggest that this is more likely in places with less complex cuisines, that have lower requirements in terms of cooking specific human capital.

VI.D Robustness

We conduct several robustness checks to our main results. First, we use average number of spices an alternative measures of cuisine complexity. Tables IX and X report the corresponding OLS and IV estimates.[14] The results show a strong negative relationship between average number of spices and female labor force participation that is stronger for married of cohabiting women. These results confirm our findings with the index of cuisine complexity.

We also use average cooking time as an alternative measure of cuisine complexity. Tables XIII and XIV report the corresponding OLS and IV estimates.[15] The results show a negative relationship between average cooking time and female labor force participation that is stronger for married of cohabiting women. These results confirm our findings with cuisine complexity index and with average spices.

Second, we estimate our baseline IV estimates with a half-life value of 3,000 km. Appendix Tables B5 and B6 show that our results are robust to this alternative calculation of the IV.

VI.E Gender Gap

Our results show strong negative effects of cuisine complexity on labor force participation and full-time employment for women, that contrasts with null and in some cases positive effects for men. This suggests a wider gender gap in labor outcomes induced by cuisine

[14] First stage results are presented in Table B2
[15] First stage results are presented in Table B4

complexity. To explore the magnitudes of these effects, we pooled together the sample of men and women and estimate Equation 4 adding a gender indicator and the interaction between gender and cuisine complexity. Tables VI and VII present the OLS estimation results. Consistent with a negative gender gap in labor force participation, Panel A of Table VI shows a negative and statistically significant coefficient on the female indicator for the full sample, while the interaction between cuisine complexity and gender is negative but small in magnitude and imprecisely estimated.

Consistent with the effects of cuisine complexity being driven by intrahousehold allocation of time, when we restrict the sample to married or cohabiting individuals, the pattern changes. The gender dummy loses statistical significance, and the entire gender gap is instead explained by cuisine complexity. These results remain stable across specifications in columns 1 through 6.

Column 7 presents a more stringent specification that includes country fixed effects. This specification allows us to estimate how differences in the complexity of cuisine shape the gender gap within countries. In particular, the coefficient on the interaction between cuisine complexity and the gender indicator, captures how the gap between women and men in the same country varies with that country's level of cuisine complexity. The interaction coefficient remains largely stable across specifications. Its magnitude implies that a one SD increase in complexity widens the gender gap in labor force participation by about 0.23 percentage points, representing a 37% increase in the gender gap.

Table VII shows similar results in the gender gap for full-time employment. Similarly, Table VIII presents a strong relationship between cuisine complexity and the gender gap in household cooking.

VII Conclusion

Across diverse settings, the burden of daily meal production is reflected in the metaphors that encode gender norms: India's "patriarchy of roti", Japan's "inside sphere" West Africa's "economy of the pot" Mexico's "slavery of the kitchen" and France's "tyranny of

the daily meal." Despite their cultural variation, these expressions describe a common institution that systematically structures women's time. Together, they underscore a shared economic reality in which societies assign food preparation to women, generating inflexible time constraints we show have a significant role to play in explaining the realized labor force participation rates for women relative to men across the world.

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Figures and Tables

Table I: Descriptive statistics

	Mean	SD	Median	Min	Max
Panel A. Cuisine complexity					
Cuisine Complexity Index	0.00	1.00	-0.17	-3.75	3.13
Cooking time (minutes)	79.18	260.30	40.00	1.00	21015.00
Number of ingredients	9.56	4.03	9.00	1.00	53.00
Number of spices	2.29	2.26	2.00	0.00	21.00
Countries	137				
Observations	66752				
	Total	Female		Male	
	Mean	Mean	SD	Mean	SD
Panel B. Labor Market					
Female	0.54				
Labor Force Participation	0.63	0.55	0.50	0.73	0.44
Employed full-time	0.66	0.60	0.49	0.72	0.45
Employed full-time for employer	0.45	0.42	0.49	0.49	0.50
Number of meals cooked	6.58	8.72	4.74	4.08	4.69
Spouse cooked	0.63	0.40	0.49	0.89	0.31
Countries	109	109		109	
Observations	441359	237430		203929	

Notes: This table presents the main statistics for cuisine complexity and labor market variables based on the recipe data and the Cookpad data respectively.

Table II: Labor Force Participation, OLS Estimates

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. All women						
Cuisine complexity	-0.029**	-0.028**	-0.029**	-0.018	-0.019	-0.014*
	(0.013)	(0.013)	(0.013)	(0.013)	(0.012)	(0.008)
Mean dep. var.	0.516	0.516	0.515	0.515	0.515	0.509
Observations	88,038	88,038	86,759	86,759	86,759	82,333
R-squared	0.052	0.052	0.053	0.059	0.060	0.106
Panel B. Married or cohabiting women						
Cuisine complexity	-0.036**	-0.036*	-0.037**	-0.020	-0.022	-0.019*
	(0.018)	(0.018)	(0.018)	(0.019)	(0.017)	(0.011)
Mean dep. var.	0.542	0.542	0.541	0.541	0.541	0.535
Observations	50,800	50,800	50,349	50,349	50,349	46,839
R-squared	0.068	0.068	0.070	0.078	0.079	0.118
Panel C. All men						
Cuisine complexity	-0.012	-0.012	-0.011	-0.003	-0.007	-0.008
	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)
Mean dep. var.	0.706	0.706	0.705	0.705	0.705	0.705
Observations	74,928	74,928	74,127	74,127	74,127	70,195
R-squared	0.024	0.024	0.024	0.026	0.028	0.051
Panel D. Married or cohabiting men						
Cuisine complexity	-0.005	-0.004	-0.002	0.003	-0.003	-0.007
	(0.010)	(0.010)	(0.010)	(0.011)	(0.010)	(0.010)
Mean dep. var.	0.743	0.743	0.742	0.742	0.742	0.743
Observations	45,388	45,388	45,055	45,055	45,055	42,156
R-squared	0.030	0.030	0.030	0.034	0.036	0.064
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes
Suitability	No	Yes	Yes	Yes	Yes	Yes
GDP	No	No	Yes	Yes	Yes	Yes
Climate & location	No	No	No	Yes	Yes	Yes
Other geographic	No	No	No	No	Yes	Yes
Ind. & hh. controls	No	No	No	No	No	Yes

Notes: The dependent variable is an indicator variable for labor force participation. Robust standard errors clustered at country level reported in parentheses. *p<0.1, **p<0.05, ***p<0.01.

Table III: Labor Force Participation, IV Estimates

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. All women						
Cuisine complexity	-0.192*	-0.196*	-0.197*	-0.148*	-0.129*	-0.076
	(0.117)	(0.114)	(0.101)	(0.076)	(0.071)	(0.049)
Mean dep. var.	0.516	0.516	0.515	0.515	0.515	0.509
Observations	88,038	88,038	86,759	86,759	86,759	82,333
R-squared	-0.029	-0.031	-0.030	-0.004	0.001	0.055
First stage F-statistic	6.239	5.800	5.895	4.770	4.947	6.097
Panel B. Married or cohabiting women						
Cuisine complexity	-0.240**	-0.238**	-0.237**	-0.211**	-0.183**	-0.132**
	(0.116)	(0.113)	(0.101)	(0.093)	(0.090)	(0.065)
Mean dep. var.	0.542	0.542	0.541	0.541	0.541	0.535
Observations	50,800	50,800	50,349	50,349	50,349	46,839
R-squared	-0.047	-0.046	-0.043	-0.016	-0.006	0.043
First stage F-statistic	8.436	7.875	7.866	6.026	5.948	7.182
Panel C. All men						
Cuisine complexity	0.142**	0.148*	0.143*	0.070*	0.030	0.078*
	(0.070)	(0.079)	(0.079)	(0.042)	(0.038)	(0.042)
Mean dep. var.	0.706	0.706	0.705	0.705	0.705	0.705
Observations	74,928	74,928	74,127	74,127	74,127	70,195
R-squared	-0.027	-0.029	-0.027	-0.000	0.005	0.022
First stage F-statistic	6.031	5.522	5.549	5.155	4.589	5.450
Panel D. Married or cohabiting men						
Cuisine complexity	0.125**	0.127*	0.124*	0.035	0.006	0.081*
	(0.056)	(0.066)	(0.065)	(0.035)	(0.038)	(0.044)
Mean dep. var.	0.743	0.743	0.742	0.742	0.742	0.743
Observations	45,388	45,388	45,055	45,055	45,055	42,156
R-squared	-0.020	-0.021	-0.019	0.005	0.008	0.029
First stage F-statistic	7.303	6.535	6.394	5.803	4.928	5.891
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes
Suitability	No	Yes	Yes	Yes	Yes	Yes
GDP	No	No	Yes	Yes	Yes	Yes
Climate & location	No	No	No	Yes	Yes	Yes
Other geographic	No	No	No	No	Yes	Yes
Ind. & hh. controls	No	No	No	No	No	Yes

Notes: The dependent variable is an indicator variable for labor force participation. Robust standard errors clustered at country level reported in parentheses. *p<0.1, **p<0.05, ***p<0.01.

Table IV: Other Labor Market Outcomes, Women, IV Estimates

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. Employed full-time, all working women						
Cuisine complexity	-0.410**	-0.414**	-0.430**	-0.152*	-0.096	-0.043
	(0.206)	(0.200)	(0.214)	(0.090)	(0.069)	(0.060)
Mean dep. var.						
Observations	45,461	45,461	44,638	44,638	44,638	41,934
R-squared	-0.205	-0.208	-0.223	-0.011	0.007	0.046
First stage F-statistic	4.229	4.327	4.314	6.654	8.330	8.487
Panel B. Employed full-time, married or cohabiting working women						
Cuisine complexity	-0.409**	-0.416**	-0.440**	-0.135*	-0.093	-0.032
	(0.185)	(0.182)	(0.204)	(0.080)	(0.068)	(0.059)
Mean dep. var.						
Observations	27,528	27,528	27,239	27,239	27,239	25,055
R-squared	-0.215	-0.222	-0.241	-0.004	0.011	0.042
First stage F-statistic	5.364	5.362	5.126	6.918	7.969	8.406
Panel C. Employed full-time for employer, all working women						
Cuisine complexity	-0.101	-0.116	-0.134	0.028	0.048	0.095
	(0.104)	(0.104)	(0.114)	(0.050)	(0.061)	(0.062)
Mean dep. var.						
Observations	45,461	45,461	44,638	44,638	44,638	41,934
R-squared	-0.020	-0.025	-0.027	0.013	0.017	0.059
First stage F-statistic	4.229	4.327	4.314	6.654	8.330	8.487
Panel D. Employed full-time for employer, married or cohabiting working women						
Cuisine complexity	-0.082	-0.094	-0.114	0.037	0.052	0.109*
	(0.087)	(0.088)	(0.102)	(0.052)	(0.064)	(0.064)
Mean dep. var.						
Observations	27,528	27,528	27,239	27,239	27,239	25,055
R-squared	-0.018	-0.021	-0.022	0.014	0.018	0.050
First stage F-statistic	5.364	5.362	5.126	6.918	7.969	8.406
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes
Suitability	No	Yes	Yes	Yes	Yes	Yes
GDP	No	No	Yes	Yes	Yes	Yes
Climate & location	No	No	No	Yes	Yes	Yes
Other geographic	No	No	No	No	Yes	Yes
Ind. & hh. controls	No	No	No	No	No	Yes

Notes: The dependent variable is an indicator for full-time employment in Panels A and B, while in Panels C and D it is an indicator for full-time wage employment. Robust standard errors clustered at country level reported in parentheses. *p<0.1, **p<0.05, ***p<0.01.

Table V: Specialization in Household Cooking, IV Estimates

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. Dependent variable: Number of meals cooked, married or cohabiting women						
Cuisine complexity	0.065	-0.042	-0.033	0.494	0.054	-0.268
	(0.553)	(0.475)	(0.450)	(0.582)	(0.507)	(0.406)
Mean dep. var.						
Observations	50,800	50,800	50,349	50,349	50,349	46,839
R-squared	-0.000	0.002	0.003	0.000	0.005	0.025
First stage F-statistic	8.436	7.875	7.866	6.026	5.948	7.182
Panel B. Dependent variable: Number of meals cooked, married or cohabiting men						
Cuisine complexity	-3.893**	-3.623**	-3.560**	-2.845**	-3.732**	-2.918**
	(1.526)	(1.506)	(1.439)	(1.230)	(1.649)	(1.250)
Mean dep. var.						
Observations	45,388	45,388	45,055	45,055	45,055	42,156
R-squared	-0.164	-0.137	-0.126	-0.038	-0.080	-0.036
First stage F-statistic	7.303	6.535	6.394	5.803	4.928	5.891
Panel C. Dependent variable: Spouse cooked, married or cohabiting women						
Cuisine complexity	-0.182**	-0.197**	-0.192**	-0.223**	-0.213*	-0.160*
	(0.082)	(0.093)	(0.083)	(0.110)	(0.112)	(0.090)
Mean dep. var.						
Observations	48,742	48,742	48,296	48,296	48,296	45,081
R-squared	-0.039	-0.045	-0.040	-0.034	-0.030	0.001
First stage F-statistic	8.183	7.579	7.615	6.060	6.103	7.272
Panel D. Dependent variable: Spouse cooked, married or cohabiting men						
Cuisine complexity	0.090**	0.086**	0.086**	0.049	0.069*	0.060*
	(0.038)	(0.037)	(0.039)	(0.031)	(0.037)	(0.032)
Mean dep. var.						
Observations	43,438	43,438	43,111	43,111	43,111	40,527
R-squared	-0.018	-0.016	-0.015	0.000	-0.002	0.003
First stage F-statistic	7.230	6.448	6.346	5.748	4.915	5.872
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes
Suitability	No	Yes	Yes	Yes	Yes	Yes
GDP	No	No	Yes	Yes	Yes	Yes
Climate & location	No	No	No	Yes	Yes	Yes
Other geographic	No	No	No	No	Yes	Yes
Ind. & hh. controls	No	No	No	No	No	Yes

Notes: The dependent variable is the number of meals cooked over the past week in Panels A and B, while in Panels C and D it is an indicator capturing whether the spouse cooked at home in the past week. Robust standard errors clustered at country level reported in parentheses. *p<0.1, **p<0.05, ***p<0.01.

Table VI: Gender Gap in Labor Force Participation, OLS Estimates

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A. Whole Sample							
Cuisine complexity	-0.017	-0.017	-0.016	-0.009	-0.010	-0.004	
	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	
Female =1	-0.161***	-0.161***	-0.161***	-0.159***	-0.160***	-0.138***	-0.138***
	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)
Female=1 × Cuisine complexity	-0.008	-0.008	-0.008	-0.008	-0.008	-0.003	-0.005
	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)
Mean dep. var.	0.556	0.556	0.553	0.553	0.553	0.551	0.551
Observations	66,399	66,399	65,104	65,104	65,104	63,186	63,186
R-squared	0.059	0.059	0.058	0.060	0.061	0.102	0.105
Panel B. Married or cohabiting							
Cuisine complexity	0.003	0.003	0.003	0.014	0.011	0.010	
	(0.013)	(0.013)	(0.014)	(0.016)	(0.014)	(0.013)	
Female	-0.193***	-0.193***	-0.193***	-0.192***	-0.191***	-0.191***	-0.190***
	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)
Female=1 × Cuisine complexity	-0.041**	-0.041**	-0.041**	-0.041**	-0.041**	-0.041**	-0.042**
	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)
Mean dep. var.	0.637	0.637	0.636	0.636	0.636	0.633	0.633
Observations	96,188	96,188	95,404	95,404	95,404	88,995	88,995
R-squared	0.076	0.076	0.076	0.081	0.082	0.114	0.117
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes	No
Suitability	No	Yes	Yes	Yes	Yes	Yes	No
GDP	No	No	Yes	Yes	Yes	Yes	No
Climate & location	No	No	No	Yes	Yes	Yes	No
Other geographic	No	No	No	No	Yes	Yes	No
Ind. & hh. controls	No	No	No	No	No	Yes	No
Fixed effects	Region	Region	Region	Region	Region	Region	Country

Notes: The dependent variable is an indicator variable for labor force participation. Robust standard errors clustered at country level reported in parentheses. *p<0.1, **p<0.05, ***p<0.01.

Table VII: Gender Gap in Other Labor Market Outcomes, OLS Estimates

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A. Employed full-time, all working adults							
Cuisine complexity	0.025*	0.025*	0.025*	0.032*	0.026*	0.018	
	(0.014)	(0.013)	(0.013)	(0.017)	(0.013)	(0.012)	
Female=1	-0.062***	-0.062***	-0.059***	-0.059***	-0.059***	-0.045***	-0.045***
	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.009)	(0.009)
Female=1 × Cuisine complexity	-0.005	-0.006	-0.008	-0.009	-0.006	-0.002	-0.002
	(0.008)	(0.008)	(0.009)	(0.009)	(0.008)	(0.008)	(0.008)
Mean dep. var.	0.602	0.602	0.605	0.605	0.605	0.603	0.603
Observations	36,943	36,943	36,030	36,030	36,030	34,841	34,841
R-squared	0.062	0.062	0.064	0.066	0.069	0.106	0.112
Panel B. Employed full-time, married or cohabiting working adults							
Cuisine complexity	0.037***	0.037***	0.034**	0.036**	0.028**	0.024*	
	(0.013)	(0.013)	(0.013)	(0.015)	(0.014)	(0.013)	
Female=1	-0.129***	-0.129***	-0.128***	-0.128***	-0.128***	-0.132***	-0.131***
	(0.013)	(0.013)	(0.013)	(0.013)	(0.013)	(0.012)	(0.012)
Female=1 × Cuisine complexity	-0.016	-0.016	-0.017	-0.017	-0.016	-0.014	-0.017
	(0.011)	(0.011)	(0.012)	(0.012)	(0.012)	(0.011)	(0.011)
Mean dep. var.	0.696	0.696	0.697	0.697	0.697	0.696	0.696
Observations	61,233	61,233	60,669	60,669	60,669	56,369	56,369
R-squared	0.089	0.089	0.090	0.092	0.094	0.110	0.118
Panel C. Employed full-time for employer, all working adults							
Cuisine complexity	0.030*	0.030*	0.029*	0.028	0.020	0.011	
	(0.016)	(0.016)	(0.015)	(0.019)	(0.016)	(0.014)	
Female=1	-0.039***	-0.039***	-0.037***	-0.037***	-0.037***	-0.022***	-0.022***
	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.008)	(0.008)
Female=1 × Cuisine complexity	-0.015**	-0.016**	-0.017**	-0.018**	-0.016**	-0.007	-0.006
	(0.007)	(0.007)	(0.007)	(0.008)	(0.007)	(0.008)	(0.007)
Mean dep. var.	0.438	0.438	0.443	0.443	0.443	0.441	0.441
Observations	36,943	36,943	36,030	36,030	36,030	34,841	34,841
R-squared	0.133	0.133	0.136	0.138	0.142	0.186	0.193
Panel D. Employed full-time for employer, married or cohabiting working adults							
Cuisine complexity	0.042**	0.042**	0.035**	0.042**	0.033**	0.026*	
	(0.017)	(0.017)	(0.015)	(0.017)	(0.015)	(0.013)	
Female=1	-0.084***	-0.083***	-0.085***	-0.085***	-0.085***	-0.086***	-0.087***
	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.010)	(0.010)
Female=1 × Cuisine complexity	-0.015	-0.015	-0.015	-0.014	-0.012	-0.011	-0.013
	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.009)	(0.010)
Mean dep. var.	0.463	0.463	0.464	0.464	0.464	0.468	0.468
Observations	61,233	61,233	60,669	60,669	60,669	56,369	56,369
R-squared	0.181	0.182	0.185	0.188	0.191	0.226	0.231
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes	No
Suitability	No	Yes	Yes	Yes	Yes	Yes	No
GDP	No	No	Yes	Yes	Yes	Yes	No
Climate & location	No	No	No	Yes	Yes	Yes	No
Other geographic	No	No	No	No	Yes	Yes	No
Ind. & hh. controls	No	No	No	No	No	Yes	No
Fixed effects	Region	Region	Region	Region	Region	Region	Country

Notes: The dependent variable is an indicator variable for labor force participation. Robust standard errors clustered at country level reported in parentheses. *p<0.1, **p<0.05, ***p<0.01.

Table VIII: Gender Gap in Specialization in Household Cooking, OLS Estimates, married or cohabiting adults

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A. Dependent variable: Number meals cooked							
Cuisine complexity	-0.410**	-0.410**	-0.434**	-0.418**	-0.374**	-0.280	
	(0.171)	(0.171)	(0.176)	(0.193)	(0.178)	(0.168)	
Female=1	6.205***	6.205***	6.196***	6.191***	6.185***	6.349***	6.355***
	(0.270)	(0.270)	(0.274)	(0.273)	(0.273)	(0.252)	(0.252)
Female=1 × Cuisine complexity	0.332	0.333	0.345	0.345	0.348	0.318	0.331
	(0.254)	(0.254)	(0.259)	(0.257)	(0.257)	(0.243)	(0.243)
Mean dep. var.	6.820	6.820	6.805	6.805	6.805	6.670	6.670
Observations	96,188	96,188	95,404	95,404	95,404	88,995	88,995
R-squared	0.370	0.370	0.370	0.372	0.373	0.391	0.396
Panel B. Dependent variable: Spouse cooked							
Cuisine complexity	0.016	0.015	0.013	0.025**	0.028**	0.024**	
	(0.013)	(0.013)	(0.012)	(0.011)	(0.011)	(0.011)	
Female=1	-0.546***	-0.546***	-0.547***	-0.546***	-0.546***	-0.557***	-0.556***
	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)	(0.020)	(0.020)
Female × Cuisine complexity	-0.015	-0.015	-0.014	-0.013	-0.013	-0.011	-0.010
	(0.017)	(0.017)	(0.017)	(0.017)	(0.017)	(0.016)	(0.017)
Mean dep. var.	0.612	0.612	0.612	0.612	0.612	0.614	0.614
Observations	92,180	92,180	91,407	91,407	91,407	85,608	85,608
R-squared	0.341	0.342	0.344	0.347	0.347	0.366	0.367
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes	No
Suitability	No	Yes	Yes	Yes	Yes	Yes	No
GDP	No	No	Yes	Yes	Yes	Yes	No
Climate & location	No	No	No	Yes	Yes	Yes	No
Other geographic	No	No	No	No	Yes	Yes	No
Ind. & hh. controls	No	No	No	No	No	Yes	No
Fixed effects	Region	Region	Region	Region	Region	Region	Country

Notes: The dependent variable is the number of meals cooked over the past week in Panel A, while in Panels B it is an indicator capturing whether the spouse cooked at home in the past week. Robust standard errors clustered at country level reported in parentheses. *p<0.1, **p<0.05, ***p<0.01.

Table IX: Labor Force Participation, OLS Estimates

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. All women						
Average spices	-0.057***	-0.057***	-0.056***	-0.031**	-0.034**	-0.020**
	(0.018)	(0.019)	(0.018)	(0.014)	(0.013)	(0.009)
Mean dep. var.	0.516	0.516	0.515	0.515	0.515	0.509
Observations	88,038	88,038	86,759	86,759	86,759	82,333
R-squared	0.053	0.053	0.054	0.059	0.060	0.106
Panel B. Married or cohabiting women						
Average spices	-0.075***	-0.075***	-0.072***	-0.042**	-0.044**	-0.032***
	(0.023)	(0.023)	(0.023)	(0.020)	(0.018)	(0.010)
Mean dep. var.	0.542	0.542	0.541	0.541	0.541	0.535
Observations	50,800	50,800	50,349	50,349	50,349	46,839
R-squared	0.070	0.070	0.072	0.079	0.080	0.118
Panel C. All men						
Average spices	-0.018	-0.018	-0.018	-0.005	-0.015	-0.010
	(0.014)	(0.014)	(0.013)	(0.011)	(0.010)	(0.010)
Mean dep. var.	0.706	0.706	0.705	0.705	0.705	0.705
Observations	74,928	74,928	74,127	74,127	74,127	70,195
R-squared	0.024	0.024	0.024	0.026	0.028	0.051
Panel D. Married or cohabiting men						
Average spices	-0.009	-0.009	-0.008	0.000	-0.012	-0.007
	(0.015)	(0.015)	(0.014)	(0.013)	(0.011)	(0.012)
Mean dep. var.	0.743	0.743	0.742	0.742	0.742	0.743
Observations	45,388	45,388	45,055	45,055	45,055	42,156
R-squared	0.030	0.030	0.030	0.034	0.036	0.064
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes
Suitability	No	Yes	Yes	Yes	Yes	Yes
GDP	No	No	Yes	Yes	Yes	Yes
Climate & location	No	No	No	Yes	Yes	Yes
Other geographic	No	No	No	No	Yes	Yes
Ind. & hh. controls	No	No	No	No	No	Yes

Notes: The dependent variable is an indicator variable for labor force participation. Robust standard errors clustered at country level reported in parentheses. *p<0.1, **p<0.05, ***p<0.01.

Table X: Labor Force Participation, IV Estimates

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. All women						
Average spices	-0.104**	-0.110**	-0.112***	-0.079***	-0.072***	-0.047**
	(0.050)	(0.048)	(0.042)	(0.023)	(0.026)	(0.023)
Mean dep. var.						
Observations	88,038	88,038	86,759	86,759	86,759	82,333
R-squared	0.001	0.001	0.002	0.008	0.009	0.058
First stage F-statistic	22.689	22.706	23.227	40.502	33.703	34.287
Panel B. Married or cohabiting women						
Average spices	-0.130***	-0.135***	-0.136***	-0.123***	-0.109***	-0.087***
	(0.049)	(0.047)	(0.041)	(0.028)	(0.034)	(0.028)
Mean dep. var.						
Observations	50,800	50,800	50,349	50,349	50,349	46,839
R-squared	0.002	0.002	0.003	0.010	0.012	0.051
First stage F-statistic	29.119	29.291	30.070	43.436	37.069	37.425
Panel C. All men						
Average spices	0.076***	0.079***	0.078***	0.038*	0.017	0.048**
	(0.025)	(0.028)	(0.030)	(0.020)	(0.022)	(0.023)
Mean dep. var.						
Observations	74,928	74,928	74,127	74,127	74,127	70,195
R-squared	-0.006	-0.006	-0.005	0.003	0.005	0.027
First stage F-statistic	24.048	23.513	22.826	44.301	32.174	32.268
Panel D. Married or cohabiting men						
Average spices	0.066***	0.067***	0.067***	0.020	0.003	0.052**
	(0.019)	(0.024)	(0.024)	(0.019)	(0.022)	(0.025)
Mean dep. var.						
Observations	45,388	45,388	45,055	45,055	45,055	42,156
R-squared	-0.003	-0.003	-0.003	0.006	0.008	0.034
First stage F-statistic	28.506	27.823	26.946	42.953	32.896	33.032
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes
Suitability	No	Yes	Yes	Yes	Yes	Yes
GDP	No	No	Yes	Yes	Yes	Yes
Climate & location	No	No	No	Yes	Yes	Yes
Other geographic	No	No	No	No	Yes	Yes
Ind. & hh. controls	No	No	No	No	No	Yes

Notes: The dependent variable is an indicator variable for labor force participation. Robust standard errors clustered at country level reported in parentheses. *p<0.1, **p<0.05, ***p<0.01.

Table XI: Other Labor Market Outcomes, Women, IV Estimates

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. Employed full-time, all working women						
Average spices	-0.237***	-0.246***	-0.255***	-0.089**	-0.058*	-0.028
	(0.068)	(0.067)	(0.076)	(0.037)	(0.035)	(0.036)
Mean dep. var.						
Observations	45,461	45,461	44,638	44,638	44,638	41,934
R-squared	-0.032	-0.035	-0.036	0.010	0.016	0.048
First stage F-statistic	14.695	15.207	15.726	52.265	48.184	45.357
Panel B. Employed full-time, married or cohabiting working women						
Average spices	-0.231***	-0.243***	-0.253***	-0.081**	-0.057*	-0.021
	(0.061)	(0.061)	(0.071)	(0.036)	(0.034)	(0.036)
Mean dep. var.						
Observations	27,528	27,528	27,239	27,239	27,239	25,055
R-squared	-0.033	-0.036	-0.037	0.014	0.020	0.044
First stage F-statistic	18.730	19.318	19.621	54.089	48.404	46.417
Panel C. Employed full-time for employer, all working women						
Average spices	-0.058	-0.069	-0.080	0.016	0.029	0.062
	(0.050)	(0.050)	(0.055)	(0.030)	(0.038)	(0.039)
Mean dep. var.						
Observations	45,461	45,461	44,638	44,638	44,638	41,934
R-squared	-0.002	-0.003	0.001	0.012	0.015	0.058
First stage F-statistic	14.695	15.207	15.726	52.265	48.184	45.357
Panel D. Employed full-time for employer, married or cohabiting working women						
Average spices	-0.047	-0.055	-0.066	0.022	0.032	0.072*
	(0.043)	(0.043)	(0.049)	(0.031)	(0.040)	(0.040)
Mean dep. var.						
Observations	27,528	27,528	27,239	27,239	27,239	25,055
R-squared	-0.003	-0.003	0.000	0.012	0.016	0.050
First stage F-statistic	18.730	19.318	19.621	54.089	48.404	46.417
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes
Suitability	No	Yes	Yes	Yes	Yes	Yes
GDP	No	No	Yes	Yes	Yes	Yes
Climate & location	No	No	No	Yes	Yes	Yes
Other geographic	No	No	No	No	Yes	Yes
Ind. & hh. controls	No	No	No	No	No	Yes

Notes: The dependent variable is an indicator for full-time employment in Panels A and B, while in Panels C and D it is an indicator for full-time wage employment. Robust standard errors clustered at country level reported in parentheses. *p<0.1, **p<0.05, ***p<0.01.

Table XII: Specialization in Household Cooking, IV Estimates

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. Dependent variable: Number of meals cooked, married or cohabiting women						
Average spices	0.035	-0.024	-0.019	0.288	0.032	-0.176
	(0.300)	(0.269)	(0.257)	(0.301)	(0.300)	(0.267)
Mean dep. var.						
Observations	50,800	50,800	50,349	50,349	50,349	46,839
R-squared	0.000	0.002	0.002	0.003	0.005	0.025
First stage F-statistic	29.119	29.291	30.070	43.436	37.069	37.425
Panel B. Dependent variable: Number of meals cooked, married or cohabiting men						
Average spices	-2.043***	-1.925***	-1.905***	-1.622***	-2.138***	-1.861***
	(0.501)	(0.485)	(0.483)	(0.515)	(0.519)	(0.507)
Mean dep. var.						
Observations	45,388	45,388	45,055	45,055	45,055	42,156
R-squared	-0.019	-0.015	-0.012	0.006	0.009	0.012
First stage F-statistic	28.506	27.823	26.946	42.953	32.896	33.032
Panel C. Dependent variable: Spouse cooked, married or cohabiting women						
Average spices	-0.097***	-0.111***	-0.108***	-0.131***	-0.129***	-0.107**
	(0.031)	(0.036)	(0.031)	(0.043)	(0.046)	(0.045)
Mean dep. var.						
Observations	48,742	48,742	48,296	48,296	48,296	45,081
R-squared	-0.002	-0.002	0.000	0.005	0.008	0.020
First stage F-statistic	29.816	29.803	30.713	43.141	37.100	37.500
Panel D. Dependent variable: Spouse cooked, married or cohabiting men						
Average spices	0.047***	0.046***	0.046***	0.028*	0.040**	0.038**
	(0.017)	(0.015)	(0.016)	(0.016)	(0.016)	(0.016)
Mean dep. var.						
Observations	43,438	43,438	43,111	43,111	43,111	40,527
R-squared	-0.002	-0.001	-0.002	0.002	0.004	0.007
First stage F-statistic	28.912	28.208	27.390	42.088	32.465	32.776
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes
Suitability	No	Yes	Yes	Yes	Yes	Yes
GDP	No	No	Yes	Yes	Yes	Yes
Climate & location	No	No	No	Yes	Yes	Yes
Other geographic	No	No	No	No	Yes	Yes
Ind. & hh. controls	No	No	No	No	No	Yes

Notes: The dependent variable is the number of meals cooked over the past week in Panels A and B, while in Panels C and D it is an indicator capturing whether the spouse cooked at home in the past week. Robust standard errors clustered at country level reported in parentheses. *p<0.1, **p<0.05, ***p<0.01.

Table XIII: Labor Force Participation and Cooking Time, OLS Estimates

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. All women						
Log. average cooking time	-0.020	-0.021	-0.026*	-0.059***	-0.063***	-0.048***
	(0.014)	(0.015)	(0.014)	(0.013)	(0.013)	(0.010)
Mean dep. var.	0.516	0.516	0.515	0.515	0.515	0.509
Observations	88,038	88,038	86,759	86,759	86,759	82,333
R-squared	0.051	0.051	0.052	0.061	0.061	0.107
Panel B. Married or cohabiting women						
Log. average cooking time	-0.050**	-0.051**	-0.057***	-0.094***	-0.100***	-0.075***
	(0.020)	(0.021)	(0.020)	(0.020)	(0.018)	(0.014)
Mean dep. var.	0.542	0.542	0.541	0.541	0.541	0.535
Observations	50,800	50,800	50,349	50,349	50,349	46,839
R-squared	0.068	0.068	0.071	0.082	0.083	0.119
Panel C. All men						
Log. average cooking time	-0.006	-0.004	-0.001	-0.008	-0.010	-0.008
	(0.009)	(0.009)	(0.009)	(0.009)	(0.010)	(0.012)
Mean dep. var.	0.706	0.706	0.705	0.705	0.705	0.705
Observations	74,928	74,928	74,127	74,127	74,127	70,195
R-squared	0.024	0.024	0.024	0.027	0.028	0.051
Panel D. Married or cohabiting men						
Log. average cooking time	-0.006	-0.003	-0.001	-0.014	-0.015	-0.009
	(0.009)	(0.010)	(0.010)	(0.012)	(0.013)	(0.014)
Mean dep. var.	0.743	0.743	0.742	0.742	0.742	0.743
Observations	45,388	45,388	45,055	45,055	45,055	42,156
R-squared	0.030	0.030	0.030	0.034	0.037	0.064
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes
Suitability	No	Yes	Yes	Yes	Yes	Yes
GDP	No	No	Yes	Yes	Yes	Yes
Climate & location	No	No	No	Yes	Yes	Yes
Other geographic	No	No	No	No	Yes	Yes
Ind. & hh. controls	No	No	No	No	No	Yes

Notes: The dependent variable is an indicator variable for labor force participation. Robust standard errors clustered at country level reported in parentheses. *p<0.1, **p<0.05, ***p<0.01.

Table XIV: Labor Force Participation and Cooking Time, IV Estimates

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. All women						
Log. average cooking time	-1.673	-5.863	-6.722	-0.224*	-0.243*	-0.121**
	(5.120)	(66.352)	(82.638)	(0.118)	(0.145)	(0.056)
Mean dep. var.						
Observations	88,038	88,038	86,759	86,759	86,759	82,333
R-squared	-1.764	-21.143	-27.600	-0.003	-0.004	0.057
First stage F-statistic	0.106	0.008	0.006	2.784	1.905	3.458
Panel B. Married or cohabiting women						
Log. average cooking time	-1.687	-2.660	-2.655	-0.364**	-0.382*	-0.234***
	(3.420)	(9.434)	(9.009)	(0.178)	(0.213)	(0.089)
Mean dep. var.						
Observations	50,800	50,800	50,349	50,349	50,349	46,839
R-squared	-1.703	-4.153	-4.087	-0.020	-0.018	0.044
First stage F-statistic	0.236	0.079	0.084	3.056	2.062	3.779
Panel C. All men						
Log. average cooking time	1.268	2.466	2.337	0.100	0.050	0.118
	(3.923)	(16.343)	(14.404)	(0.089)	(0.088)	(0.100)
Mean dep. var.						
Observations	74,928	74,928	74,127	74,127	74,127	70,195
R-squared	-1.165	-4.231	-3.754	-0.002	0.004	0.022
First stage F-statistic	0.106	0.023	0.026	3.357	2.247	3.599
Panel D. Married or cohabiting men						
Log. average cooking time	0.829	0.986	0.948	0.052	0.010	0.121
	(1.735)	(2.875)	(2.600)	(0.066)	(0.067)	(0.093)
Mean dep. var.						
Observations	45,388	45,388	45,055	45,055	45,055	42,156
R-squared	-0.544	-0.732	-0.668	0.003	0.008	0.028
First stage F-statistic	0.237	0.124	0.140	3.775	2.653	4.354
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes
Suitability	No	Yes	Yes	Yes	Yes	Yes
GDP	No	No	Yes	Yes	Yes	Yes
Climate & location	No	No	No	Yes	Yes	Yes
Other geographic	No	No	No	No	Yes	Yes
Ind. & hh. controls	No	No	No	No	No	Yes

Notes: The dependent variable is an indicator variable for labor force participation. Robust standard errors clustered at country level reported in parentheses. *p<0.1, **p<0.05, ***p<0.01.

Table XV: Gender Gap in Labor Force Participation, OLS Estimates

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A. Whole Sample							
Average spices	-0.025*	-0.025*	-0.026*	-0.008	-0.013	0.001	
	(0.014)	(0.014)	(0.014)	(0.013)	(0.013)	(0.012)	
Female	-0.125***	-0.125***	-0.124***	-0.123***	-0.124***	-0.116***	-0.114***
	(0.022)	(0.022)	(0.023)	(0.023)	(0.023)	(0.023)	(0.023)
Female × Average spices	-0.016	-0.016	-0.017	-0.017	-0.016	-0.010	-0.011
	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)
Mean dep. var.	0.556	0.556	0.553	0.553	0.553	0.551	0.551
Observations	66,399	66,399	65,104	65,104	65,104	63,186	63,186
R-squared	0.059	0.059	0.058	0.061	0.061	0.102	0.105
Panel B. Married or cohabiting							
Average spices	-0.013	-0.013	-0.012	0.009	0.001	0.010	
	(0.016)	(0.016)	(0.016)	(0.017)	(0.015)	(0.013)	
Female	-0.059	-0.059	-0.058	-0.056	-0.057	-0.057	-0.056
	(0.039)	(0.039)	(0.039)	(0.039)	(0.039)	(0.039)	(0.039)
Female × Average spices	-0.058***	-0.058***	-0.058***	-0.059***	-0.058***	-0.058***	-0.059***
	(0.016)	(0.016)	(0.016)	(0.016)	(0.017)	(0.017)	(0.017)
Mean dep. var.	0.637	0.637	0.636	0.636	0.636	0.633	0.633
Observations	96,188	96,188	95,404	95,404	95,404	88,995	88,995
R-squared	0.079	0.079	0.080	0.084	0.085	0.117	0.120
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes	No
Suitability	No	Yes	Yes	Yes	Yes	Yes	No
GDP	No	No	Yes	Yes	Yes	Yes	No
Climate & location	No	No	No	Yes	Yes	Yes	No
Other geographic	No	No	No	No	Yes	Yes	No
Ind. & hh. controls	No	No	No	No	No	Yes	No
Fixed effects	Region	Region	Region	Region	Region	Region	Country

Notes: The dependent variable is an indicator variable for labor force participation. Robust standard errors clustered at country level reported in parentheses. *p<0.1, **p<0.05, ***p<0.01.

Table XVI: Gender Gap in Other Labor Market Outcomes, OLS Estimates

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A. Employed full-time, all working adults							
Average spices	-0.001	-0.001	0.004	-0.009	-0.022	-0.028*	
	(0.018)	(0.018)	(0.018)	(0.022)	(0.018)	(0.016)	
Female	-0.025	-0.025	-0.017	-0.016	-0.022	-0.011	-0.031
	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)	(0.021)
Female × Average spices	-0.017**	-0.017**	-0.020**	-0.020**	-0.018**	-0.015	-0.014*
	(0.009)	(0.009)	(0.009)	(0.009)	(0.008)	(0.009)	(0.008)
Mean dep. var.	0.601	0.601	0.604	0.604	0.604	0.602	0.601
Observations	37,624	37,620	36,704	36,704	36,684	35,461	37,621
R-squared	0.062	0.063	0.065	0.066	0.070	0.105	0.077
Panel B. Employed full-time, married or cohabiting working adults							
Average spices	0.018	0.017	0.018	0.011	-0.004	-0.006	
	(0.017)	(0.017)	(0.018)	(0.020)	(0.017)	(0.015)	
Female	-0.065**	-0.065**	-0.061**	-0.062**	-0.063**	-0.067**	-0.063**
	(0.027)	(0.027)	(0.028)	(0.028)	(0.028)	(0.027)	(0.027)
Female × Average spices	-0.028***	-0.028***	-0.030***	-0.029***	-0.029***	-0.028***	-0.030***
	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)
Mean dep. var.	0.696	0.696	0.697	0.697	0.697	0.696	0.696
Observations	61,233	61,233	60,669	60,669	60,669	56,369	61,233
R-squared	0.089	0.089	0.090	0.092	0.095	0.110	0.104
Panel C. Employed full-time for employer, all working adults							
Average spices	0.001	0.000	0.005	-0.018	-0.027	-0.033**	
	(0.019)	(0.019)	(0.019)	(0.021)	(0.018)	(0.016)	
Female	0.015	0.015	0.021	0.021	0.015	0.025	0.006
	(0.019)	(0.019)	(0.020)	(0.020)	(0.019)	(0.021)	(0.018)
Female × Average spices	-0.024***	-0.024***	-0.026***	-0.026***	-0.024***	-0.020**	-0.020***
	(0.007)	(0.007)	(0.008)	(0.008)	(0.007)	(0.008)	(0.007)
Mean dep. var.	0.438	0.438	0.443	0.443	0.443	0.441	0.438
Observations	37,624	37,620	36,704	36,704	36,684	35,461	37,621
R-squared	0.132	0.133	0.136	0.138	0.143	0.178	0.152
Panel D. Employed full-time for employer, married or cohabiting working adults							
Average spices	0.027	0.027	0.025	0.019	0.003	-0.006	
	(0.019)	(0.020)	(0.018)	(0.020)	(0.017)	(0.014)	
Female	-0.030	-0.030	-0.031	-0.033	-0.035	-0.036	-0.030
	(0.023)	(0.023)	(0.023)	(0.023)	(0.023)	(0.022)	(0.024)
Female × Average spices	-0.023***	-0.023***	-0.024***	-0.023***	-0.022***	-0.022***	-0.025***
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.007)	(0.009)
Mean dep. var.	0.463	0.463	0.464	0.464	0.464	0.468	0.463
Observations	61,233	61,233	60,669	60,669	60,669	56,369	61,233
R-squared	0.181	0.181	0.185	0.187	0.191	0.218	0.198
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes	No
Suitability	No	Yes	Yes	Yes	Yes	Yes	No
GDP	No	No	Yes	Yes	Yes	Yes	No
Climate & location	No	No	No	Yes	Yes	Yes	No
Other geographic	No	No	No	No	Yes	Yes	No
Ind. & hh. controls	No	No	No	No	No	Yes	No
Fixed effects	Region	Region	Region	Region	Region	Region	Country

Notes: The dependent variable is an indicator for full-time employment in Panels A and B, while in Panels C and D it is an indicator for full-time wage employment. Robust standard errors clustered at country level reported in parentheses. *p<0.1, **p<0.05, ***p<0.01.

Table XVII: Gender Gap in Specialization in Household Cooking, OLS Estimates, married or cohabiting adults

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A. Dependent variable: Number meals cooked							
Average spices	-0.434**	-0.430**	-0.458**	-0.332*	-0.387**	-0.297*	
	(0.191)	(0.189)	(0.190)	(0.189)	(0.176)	(0.163)	
Female	5.013***	5.010***	4.984***	4.984***	4.982***	5.152***	5.133***
	(0.567)	(0.568)	(0.576)	(0.573)	(0.572)	(0.556)	(0.554)
Female × Average spices	0.517***	0.518***	0.526***	0.523***	0.522***	0.518***	0.530***
	(0.191)	(0.191)	(0.193)	(0.192)	(0.192)	(0.191)	(0.190)
Mean dep. var.	6.820	6.820	6.805	6.805	6.805	6.670	6.670
Observations	96,188	96,188	95,404	95,404	95,404	88,995	88,995
R-squared	0.371	0.371	0.371	0.373	0.375	0.393	0.398
Panel B. Dependent variable: Spouse cooked							
Average spices	0.014	0.013	0.012	0.030**	0.034***	0.031***	
	(0.014)	(0.014)	(0.014)	(0.012)	(0.012)	(0.011)	
Female	-0.474***	-0.473***	-0.475***	-0.475***	-0.475***	-0.487***	-0.473***
	(0.045)	(0.045)	(0.045)	(0.045)	(0.045)	(0.044)	(0.045)
Female × Average spices	-0.031**	-0.031**	-0.031**	-0.031**	-0.030**	-0.030**	-0.031**
	(0.014)	(0.014)	(0.014)	(0.015)	(0.015)	(0.014)	(0.015)
Mean dep. var.	0.612	0.612	0.612	0.612	0.612	0.614	0.612
Observations	92,180	92,180	91,407	91,407	91,407	85,608	92,180
R-squared	0.342	0.343	0.345	0.347	0.348	0.366	0.349
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes	No
Suitability	No	Yes	Yes	Yes	Yes	Yes	No
GDP	No	No	Yes	Yes	Yes	Yes	No
Climate & location	No	No	No	Yes	Yes	Yes	No
Other geographic	No	No	No	No	Yes	Yes	No
Ind. & hh. controls	No	No	No	No	No	Yes	No
Fixed effects	Region	Region	Region	Region	Region	Region	Country

Notes: The dependent variable is the number of meals cooked over the past week in Panel A, while in Panel B it is an indicator capturing whether the spouse cooked at home in the past week. Robust standard errors clustered at country level reported in parentheses. *p<0.1, **p<0.05, ***p<0.01.

Online Appendix for "The Burden of Putting Food on the Table: Cuisine Complexity and Women's Labor Force Participation"

A Proofs and Derivations

A.1 Household Optimization Problem

The household consists of a male m and female f, each with $T = 16$ waking hours. Time can be allocated to market labor L_g, cooking C_g, or leisure

$$Z_g = T - L_g - C_g, \qquad g \in \{m, f\}.$$

Household income is produced as

$$Y = \alpha L_m + L_f, \qquad \alpha \geq 1,$$

where α is the male wage premium.

Food is produced in the household using the CES technology

$$F = \left(C_m^{\rho} + \beta C_f^{\rho}\right)^{1/\rho}, \qquad \rho \leq 1,\ \beta \geq 1,$$

where β denotes the female cooking productivity advantage.

Individual utilities are

$$u_g = \ln\left(\frac{Y}{2}\right) + w_c \ln(F) + \ln(Z_g),$$

and total household utility is

$$U = u_m + u_f.$$

The household chooses (L_m, L_f, C_m, C_f) to maximize U subject to

$$L_g \geq 0, \quad C_g \geq 0, \quad Z_g = T - L_g - C_g \geq 0.$$

We focus on interior solutions with $L_g > 0$, $C_g > 0$, and $Z_g > 0$.

A.2 First-Order Conditions

Total household utility may be written as

$$U = 2\ln\left(\frac{Y}{2}\right) + 2w_c \ln(F) + \ln(Z_m) + \ln(Z_f).$$

Labor. The first-order conditions for L_m and L_f are:

$$\frac{2\alpha}{Y} - \frac{1}{Z_m} = 0, \qquad \frac{2}{Y} - \frac{1}{Z_f} = 0. \tag{A1}$$

Cooking inputs. The marginal products of cooking inputs are:

$$\frac{\partial F}{\partial C_m} = F^{1-\rho} C_m^{\rho-1}, \qquad \frac{\partial F}{\partial C_f} = F^{1-\rho}\beta C_f^{\rho-1}.$$

The first-order conditions for C_m and C_f are:

$$2w_c F^{-1}\frac{\partial F}{\partial C_m} = \frac{1}{Z_m}, \qquad 2w_c F^{-1}\frac{\partial F}{\partial C_f} = \frac{1}{Z_f}.$$

Substituting the derivatives of F and using (A1), we obtain

$$2w_c F^{-\rho} C_m^{\rho-1} = \frac{2\alpha}{Y}, \qquad 2w_c F^{-\rho}\beta C_f^{\rho-1} = \frac{2}{Y}. \tag{A2}$$

Relative cooking. Dividing the female and male cooking FOCs in (A2) yields

$$\beta\left(\frac{C_f}{C_m}\right)^{\rho-1} = \frac{1}{\alpha},$$

which implies

$$\frac{C_f}{C_m} = \left(\frac{1}{\alpha\beta}\right)^{\frac{1}{\rho-1}}. \tag{A3}$$

Equation (A3) characterizes the gender division of cooking in the interior solution.

Relative leisure and labor. The labor first-order conditions in (A1) imply a simple relationship between male and female leisure. Solving for $1/Z_m$ and $1/Z_f$ and taking the ratio gives

$$\frac{1/Z_m}{1/Z_f} = \frac{2\alpha/Y}{2/Y} = \alpha \quad \Rightarrow \quad Z_f = \alpha Z_m. \tag{A4}$$

Combining (A4) with the time constraints,

$$Z_m = T - L_m - C_m, \qquad Z_f = T - L_f - C_f,$$

yields

$$T - L_f - C_f = \alpha\big(T - L_m - C_m\big),$$

or equivalently,

$$\alpha L_m - L_f = (\alpha - 1)T - \big(\alpha C_m - C_f\big). \tag{A5}$$

Equations (A3) and (A5) jointly characterize the allocation of cooking and labor. In particular, β affects labor supply only indirectly, through its impact on (C_m, C_f) in (A3) and the time constraints, which is the mechanism underlying Proposition 2.

A.3 Interior Solutions

Because $\rho < 1$, the CES aggregator satisfies:

$$\lim_{C_m \to 0} \frac{\partial F}{\partial C_m} = \infty, \qquad \lim_{C_f \to 0} \frac{\partial F}{\partial C_f} = \infty.$$

Thus the marginal utility of eliminating one spouse's cooking effort is infinitely large. Literal corner solutions with $C_m = 0$ or $C_f = 0$ are therefore not admissible in an interior optimum: the household always finds it optimal to allocate strictly positive cooking time

to both spouses.

The limiting cases are:

- **High male wage premium (α large).** Then $C_f/C_m \to \infty$ and the man contributes only a negligible share of cooking.
- **High female cooking productivity (β large).** Then $C_f/C_m \to \infty$ and the man contributes only a negligible share of cooking.
- **Low taste for food quality (w_c small).** Both C_m and C_f approach zero, and time is allocated primarily to labor and leisure.

In the numerical simulations shown in Figure II we restrict attention to parameter values $(\alpha, \beta, \rho, w_c)$ that generate empirically plausible interior allocations.

A.4 Proofs of Propositions

Proof of Proposition 1. Differentiating (A3) with respect to β yields

$$\frac{\partial}{\partial \beta}\left(\frac{C_f}{C_m}\right) > 0 \quad \text{since } \rho - 1 < 0.$$

Similarly,

$$\frac{\partial}{\partial \alpha}\left(\frac{C_f}{C_m}\right) < 0.$$

Corner-like behavior for extreme values of α or β follows from the discussion in Appendix A.3. □

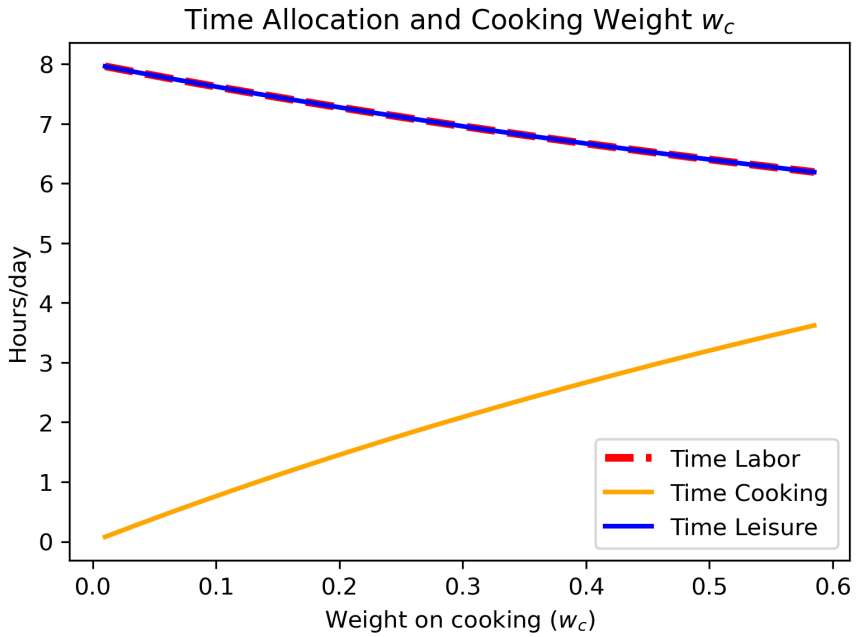
Proof of Proposition 2. By Proposition 1, C_f increases in β. Because $T = L_f + C_f + Z_f$ is fixed, an increase in C_f must reduce L_f in equilibrium; thus $s_f^L = L_f/(L_f + L_m)$ declines in β. When α is large, L_f is already negligible, so the marginal effect is small. When $\alpha \to 1$, both spouses supply labor and the crowd-out effect from cooking is stronger. □

A.5 Calibration of cooking time parameter w_c

Winsorized mean cooking time in our recipe data is 90 minutes (median 49 minutes) per recipe. According to the Cookpad data, individuals cook an average of 3.2 lunches and 3.4 dinners per week, corresponding to 0.94 meals per day and person. This implies an average of 85 minutes (median 46 minutes) per day cooking lunch and dinner, with additional time required for dishwashing, preparation, cleanup, and additional meals such as breakfast. Hence a daily cooking time of 1.5 hours seems empirically plausible.

Figure A1 shows the resulting time allocation for different values of w_c, where $w_c = 0.2$ results in a cooking time per person and day of around 1.5 hours, assuming equal contribution from both individuals in the household.

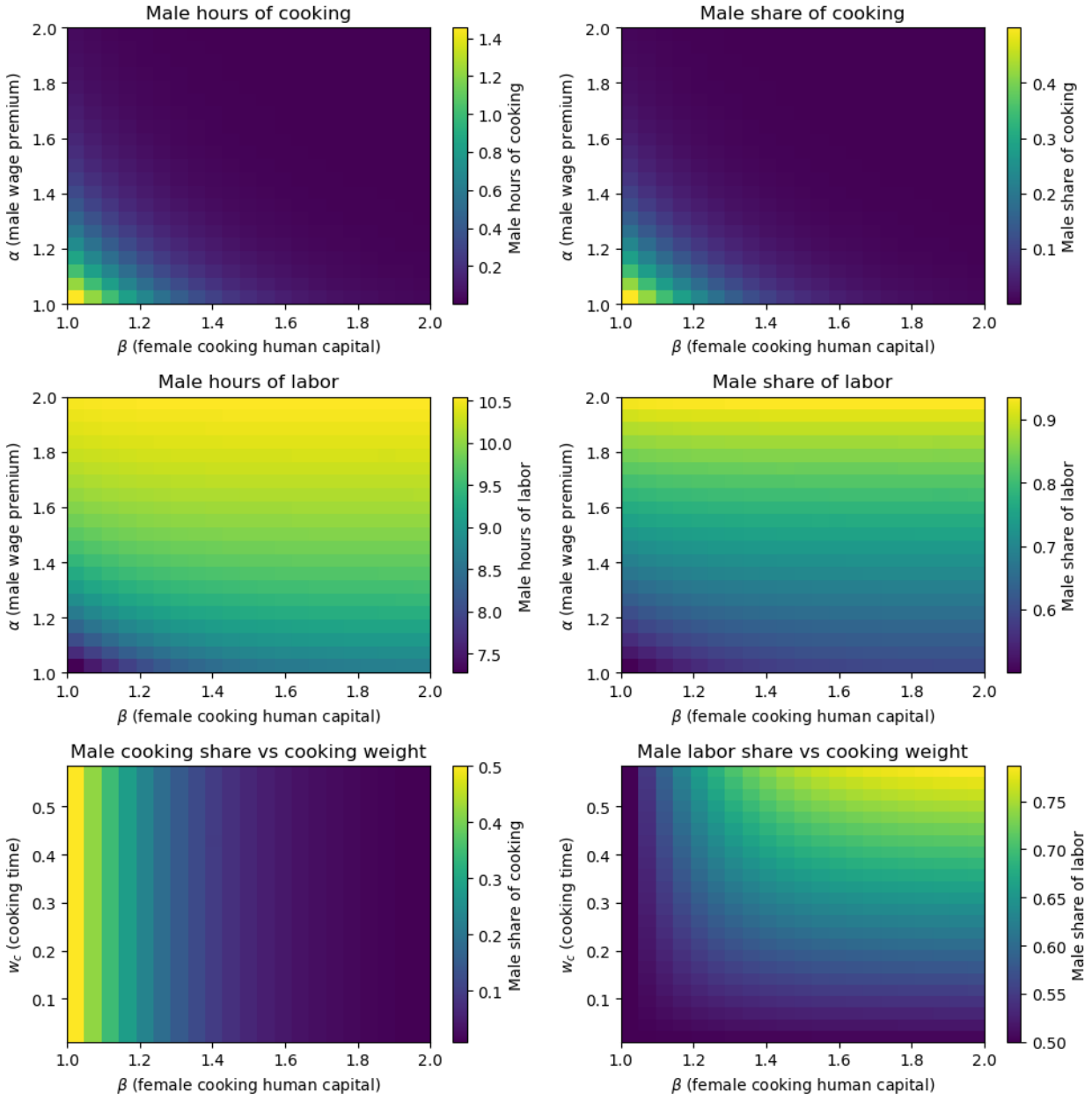
Figure A1: Average time spent per activity and person as a function of cooking weight w_c



Note: This figure shows the allocation of hours per day and person to labor, cooking, and leisure as a function of the utility weight on food quality, w_c. In our baseline calibration we set $w_c = 0.2$.

A.6 Model predictions for male cooking and labor

Figure A2: Model predictions for the hours and shares of male cooking and labor



Note: In the top and middle panels, $w_c = 0.2$. In the bottom panels, $\alpha = 1$.

B Additional Figures and Tables / Robustness checks

Table B1: Summary of Data Sources

Dataset	Source	Description	Key information / Content
Recipe Data (Cuisine complexity)	Web scraping of online recipe platforms and digitized cookbooks	Country-level dataset capturing recipe details for 139 countries	Total cooking time, number of ingredients, number of spices, preparation instructions
Native ingredients	Crop Origin Database (Milla), CIAT	Classifies countries' native and non-native ingredients	Native ingredients identification. Used to construct the versatility measure
Common compounds	FlavorDB	Contains detailed information on the chemical compounds present in each ingredient	Number of shared flavor molecules between ingredient pairs. Used to construct the versatility measure
Suitability data	FAO	Measures countries' suitability to each ingredient	Crop suitability information. Used to construct the versatility measure
Labor Force Participation	Gallup and Cookpad Home-Cooking Survey	Individual-level survey data covering 109 countries from recipe dataset, May 2018–Feb 2023	Demographics, labor-market indicators (employment, income, work hours), well-being, household composition, cooking practices
Geographical Controls	FAO; Galor and Özak (2016)	Geographic controls for country-level analysis	Altitude, precipitation, soil pH, climate zone, latitude, elevation, terrain roughness, distance to sea/rivers, landlocked
Economic Control	World Bank	Economic control for country-level analysis	GDP per capita

Table B2: Average Spices, First Stage Estimates

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. All women						
Flavor versatility	0.505***	0.520***	0.525***	0.696***	0.714***	0.713***
	(0.106)	(0.109)	(0.109)	(0.109)	(0.123)	(0.122)
Mean dep. var.	2.284	2.284	2.298	2.298	2.298	2.296
Observations	88,038	88,038	86,759	86,759	86,759	82,333
R-squared	0.874	0.874	0.874	0.923	0.926	0.931
Panel B. Married or cohabiting women						
Flavor versatility	0.531***	0.550***	0.552***	0.728***	0.738***	0.737***
	(0.098)	(0.102)	(0.101)	(0.110)	(0.121)	(0.121)
Mean dep. var.	2.399	2.399	2.408	2.408	2.408	2.414
Observations	50,800	50,800	50,349	50,349	50,349	46,839
R-squared	0.889	0.890	0.890	0.932	0.936	0.941
Panel C. All men						
Flavor versatility	0.514***	0.519***	0.524***	0.719***	0.700***	0.702***
	(0.105)	(0.107)	(0.110)	(0.108)	(0.123)	(0.124)
Mean dep. var.	2.335	2.335	2.345	2.345	2.345	2.347
Observations	74,928	74,928	74,127	74,127	74,127	70,195
R-squared	0.890	0.890	0.890	0.927	0.932	0.935
Panel D. Married or cohabiting men						
Flavor versatility	0.523***	0.530***	0.531***	0.721***	0.705***	0.707***
	(0.098)	(0.100)	(0.102)	(0.110)	(0.123)	(0.123)
Mean dep. var.	2.406	2.406	2.414	2.414	2.414	2.421
Observations	45,388	45,388	45,055	45,055	45,055	42,156
R-squared	0.900	0.900	0.900	0.932	0.938	0.942
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes
Suitability	No	Yes	Yes	Yes	Yes	Yes
GDP	No	No	Yes	Yes	Yes	Yes
Climate & location	No	No	No	Yes	Yes	Yes
Other geographic	No	No	No	No	Yes	Yes
Ind. & hh. controls	No	No	No	No	No	Yes

Notes: The dependent variable is the average of the spices. Robust standard errors clustered at country level reported in parentheses. *p<0.1, **p<0.05, ***p<0.01.

Table B3: Other Labor Market Outcomes, Men, IV Estimates

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. Employed full-time, all working men						
Average spices	0.004	-0.002	0.001	0.005	0.009	0.023
	(0.025)	(0.024)	(0.024)	(0.025)	(0.023)	(0.023)
Mean dep. var.						
Observations	52,928	52,928	52,273	52,273	52,273	49,462
R-squared	0.003	0.003	0.004	0.005	0.008	0.030
First stage F-statistic	26.982	26.534	25.663	47.439	35.487	35.085
Panel B. Employed full-time, married or cohabiting working men						
Average spices	0.009	0.004	0.006	0.003	0.005	0.012
	(0.025)	(0.024)	(0.025)	(0.026)	(0.025)	(0.024)
Mean dep. var.						
Observations	33,705	33,705	33,430	33,430	33,430	31,314
R-squared	0.004	0.004	0.005	0.006	0.009	0.028
First stage F-statistic	32.369	31.624	30.356	46.134	36.554	35.784
Panel C. Employed full-time for employer, all working men						
Average spices	-0.035	-0.041	-0.034	-0.031	-0.005	0.015
	(0.030)	(0.029)	(0.025)	(0.028)	(0.032)	(0.031)
Mean dep. var.						
Observations	52,928	52,928	52,273	52,273	52,273	49,462
R-squared	0.002	0.002	0.007	0.009	0.015	0.045
First stage F-statistic	26.982	26.534	25.663	47.439	35.487	35.085
Panel D. Employed full-time for employer, married or cohabiting working men						
Average spices	-0.026	-0.027	-0.022	-0.030	-0.003	0.008
	(0.026)	(0.027)	(0.025)	(0.028)	(0.035)	(0.032)
Mean dep. var.						
Observations	33,705	33,705	33,430	33,430	33,430	31,314
R-squared	0.002	0.002	0.006	0.009	0.015	0.042
First stage F-statistic	32.369	31.624	30.356	46.134	36.554	35.784
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes
Suitability	No	Yes	Yes	Yes	Yes	Yes
GDP	No	No	Yes	Yes	Yes	Yes
Climate & location	No	No	No	Yes	Yes	Yes
Other geographic	No	No	No	No	Yes	Yes
Ind. & hh. controls	No	No	No	No	No	Yes

Notes: The table shows the results only for men. The dependent variable is an indicator for full-time employment in Panels A and B, while in Panels C and D it is an indicator for full-time wage employment. Robust standard errors clustered at country level reported in parentheses. *p<0.1, **p<0.05, ***p<0.01.

Table B4: Cooking Time, First Stage Estimates

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. All women						
Flavor versatility	0.031	0.010	0.009	0.245*	0.211	0.276*
	(0.096)	(0.111)	(0.108)	(0.147)	(0.153)	(0.149)
Mean dep. var.	4.357	4.357	4.363	4.363	4.363	4.350
Observations	88,038	88,038	86,759	86,759	86,759	82,333
R-squared	0.530	0.549	0.555	0.640	0.671	0.745
Panel B. Married or cohabiting women						
Flavor versatility	0.041	0.028	0.028	0.246*	0.210	0.274*
	(0.084)	(0.099)	(0.097)	(0.141)	(0.146)	(0.141)
Mean dep. var.	4.346	4.346	4.349	4.349	4.349	4.331
Observations	50,800	50,800	50,349	50,349	50,349	46,839
R-squared	0.534	0.553	0.558	0.640	0.675	0.748
Panel C. All men						
Flavor versatility	0.031	0.017	0.017	0.270*	0.230	0.285*
	(0.094)	(0.110)	(0.107)	(0.148)	(0.153)	(0.150)
Mean dep. var.	4.350	4.350	4.354	4.354	4.354	4.342
Observations	74,928	74,928	74,127	74,127	74,127	70,195
R-squared	0.566	0.581	0.586	0.663	0.691	0.769
Panel D. Married or cohabiting men						
Flavor versatility	0.041	0.036	0.037	0.276*	0.242	0.302**
	(0.085)	(0.103)	(0.100)	(0.142)	(0.149)	(0.145)
Mean dep. var.	4.355	4.355	4.357	4.357	4.357	4.343
Observations	45,388	45,388	45,055	45,055	45,055	42,156
R-squared	0.567	0.585	0.589	0.663	0.692	0.768
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes
Suitability	No	Yes	Yes	Yes	Yes	Yes
GDP	No	No	Yes	Yes	Yes	Yes
Climate & location	No	No	No	Yes	Yes	Yes
Other geographic	No	No	No	No	Yes	Yes
Ind. & hh. controls	No	No	No	No	No	Yes

Notes: The dependent variable is the cooking time. Robust standard errors clustered at country level reported in parentheses. *p<0.1, **p<0.05, ***p<0.01.

Table B5: Labor Force Participation, IV Estimates, half-life 3000 km

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. All women						
Average spices	-0.107**	-0.113**	-0.116***	-0.079***	-0.070***	-0.047**
	(0.048)	(0.047)	(0.040)	(0.023)	(0.026)	(0.023)
Mean dep. var.						
Observations	88,038	88,038	86,759	86,759	86,759	82,333
R-squared	0.001	0.000	0.001	0.008	0.009	0.058
First stage F-statistic	24.774	24.752	25.024	40.742	34.950	34.772
Panel B. Married or cohabiting women						
Average spices	-0.132***	-0.137***	-0.138***	-0.121***	-0.105***	-0.086***
	(0.048)	(0.046)	(0.040)	(0.028)	(0.033)	(0.028)
Mean dep. var.						
Observations	50,800	50,800	50,349	50,349	50,349	46,839
R-squared	0.002	0.002	0.003	0.010	0.012	0.051
First stage F-statistic	31.061	31.217	31.893	43.657	38.061	37.515
Panel C. All men						
Average spices	0.071***	0.075***	0.073***	0.037*	0.016	0.046**
	(0.023)	(0.026)	(0.028)	(0.021)	(0.021)	(0.023)
Mean dep. var.						
Observations	74,928	74,928	74,127	74,127	74,127	70,195
R-squared	-0.005	-0.005	-0.005	0.003	0.005	0.027
First stage F-statistic	26.453	26.036	24.792	45.251	34.148	33.482
Panel D. Married or cohabiting men						
Average spices	0.061***	0.063***	0.062***	0.019	0.003	0.050**
	(0.017)	(0.022)	(0.023)	(0.020)	(0.022)	(0.024)
Mean dep. var.						
Observations	45,388	45,388	45,055	45,055	45,055	42,156
R-squared	-0.003	-0.003	-0.002	0.006	0.008	0.034
First stage F-statistic	30.545	30.023	28.731	43.205	34.358	33.762
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes
Suitability	No	Yes	Yes	Yes	Yes	Yes
GDP	No	No	Yes	Yes	Yes	Yes
Climate & location	No	No	No	Yes	Yes	Yes
Other geographic	No	No	No	No	Yes	Yes
Ind. & hh. controls	No	No	No	No	No	Yes

Notes: The dependent variable is an indicator variable for labor force participation. Robust standard errors clustered at country level reported in parentheses. *p<0.1, **p<0.05, ***p<0.01.

Table B6: Average Spices, First Stage Estimates, 3,000 km half-life

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. All women						
Average Spices	0.446***	0.458***	0.460***	0.599***	0.619***	0.616***
	(0.090)	(0.092)	(0.092)	(0.094)	(0.105)	(0.105)
Mean dep. var.	2.284	2.284	2.298	2.298	2.298	2.296
Observations	88,038	88,038	86,759	86,759	86,759	82,333
R-squared	0.874	0.875	0.874	0.923	0.927	0.931
Panel B. Married or cohabiting women						
Average Spices	0.466***	0.482***	0.482***	0.623***	0.638***	0.636***
	(0.084)	(0.086)	(0.085)	(0.094)	(0.103)	(0.104)
Mean dep. var.	2.399	2.399	2.408	2.408	2.408	2.414
Observations	50,800	50,800	50,349	50,349	50,349	46,839
R-squared	0.890	0.890	0.890	0.932	0.936	0.941
Panel C. All men						
Average Spices	0.454***	0.458***	0.460***	0.618***	0.610***	0.610***
	(0.088)	(0.090)	(0.092)	(0.092)	(0.104)	(0.105)
Mean dep. var.	2.335	2.335	2.345	2.345	2.345	2.347
Observations	74,928	74,928	74,127	74,127	74,127	70,195
R-squared	0.890	0.891	0.890	0.927	0.932	0.935
Panel D. Married or cohabiting men						
Average Spices	0.458***	0.464***	0.464***	0.616***	0.613***	0.613***
	(0.083)	(0.085)	(0.086)	(0.094)	(0.105)	(0.105)
Mean dep. var.	2.406	2.406	2.414	2.414	2.414	2.421
Observations	45,388	45,388	45,055	45,055	45,055	42,156
R-squared	0.900	0.900	0.900	0.932	0.939	0.942
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes
Suitability	No	Yes	Yes	Yes	Yes	Yes
GDP	No	No	Yes	Yes	Yes	Yes
Climate & location	No	No	No	Yes	Yes	Yes
Other geographic	No	No	No	No	Yes	Yes
Ind. & hh. controls	No	No	No	No	No	Yes

Notes: The dependent variable is the average of the spices. Robust standard errors clustered at country level reported in parentheses. *p<0.1, **p<0.05, ***p<0.01.